DOCUMENT RESUME

ED 331 430 HE 024 492

AUTHOR	Engel, C., Ed.; And Others
TITLE	Annals of Community-Oriented Education, Volume 3, Part II.
INSTITUTION	Network of Community-Oriented Educational Institutions for Health Sciences (Netherlands).
REPORT NO	ISBN-90-73026-03-2
PUB DATE	90
NOTE	309p.; Papers presented at the Network Conference (Kerkrade, The Netherlands, 1989). For Volume 3, Part 1, see HE 024 491.
AVAILABLE FROM	Secretariat of the Network of Community-Oriented Educational Institutions for Health Sciences, University of Limburg, POB 616, 6200 MD Maastricht, The Netherlands.
PUB TYPE	Collected Works - Conference Proceedings (021) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC13 Plus Postage.
DESCRIPTORS	*Agency Cooperation; Community Action; *Community Health Services; Community Programs; *Curriculum Evaluation; Developing Nations; Educational Change; Foreign Countries; Higher Education; Institutional Cooperation; *Medical Education; Medical Schools; Networks; Program Development; Regional Programs; *Student Evaluation; *Teaching Methods

ABSTRACT

This volume comprises 95 papers or abstracts of conference presentations, focusing on various community-based approaches to health sciences education throughout the world. The papers or presentation abstracts are arranged under the following headings: (1) problems met in establishing links with the regional health care systems--the case of Maastricht (four papers); (2) strategies for establishing partnership of academic institutions and health care systems (four papers); (3) collaboration between academic centers and health care systems (45 papers); (4) new educational approaches (23 papers); and (5) curriculum evaluation and student assessment (19 papers.) (LPT)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED331430

Volume 3
1990

Published by
the Network of Community-Oriented
Educational Institutions for Health Sciences

BEST COPY AVAILABLE

Annals of Community-Oriented Education

PART II

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY
Network of Community-
Oriented Educational
Institutions for Health
Sciences
TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

HE024492

Editors
C. Engel, G. Majoor, P. Vluggen

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it

☐ Minor changes have been made to improve reproduction quality

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

The Annals of Community-Oriented Education are published by the Network of Community-Oriented Educational Institutions for Health Sciences, a non-government organisation related to the World Health Organisation and the United Nations.
Member institutions of the Network will receive a number of free copies.
Subscription rates are US $ 17 for non-members from developing countries and US $ 30 for those from industrialised countries. This includes bank administrative costs.
Price for 20 copies or more on application. Copies may be ordered from the Secretariat of the Network, University of Limburg, POB 616, 6200 MD Maastricht, The Netherlands.

Publication Policy

The Annals of Community-Oriented Education publish original investigations and descriptive or theoretical papers dealing with aspects of community-oriented, health-professions education. The Editors maintain a liberal policy concerning the nature of the subjects to be addressed. The Annals aim to encourage the study of instructional practices, approaches to student assessment and curricular aspects specific to this domain. In addition, papers addressing the broader issue of health care research will also be considered to the extent that they provide directions relevant for health professions education. The editors in particular welcome contributions from young investigators who are new to the field. The Editorial Board of the Annals sees as one of its objectives to help inexperienced authors improve their contribution, provided the subject is of interest to a broad audience and the study is methodologically sound.

Manuscripts

Manuscripts should be submitted in quadruplicate to the editor, Charles E. Engel, Network Secretariat, POB 616, 6200 MD Maastricht, The Netherlands. Whenever possible, enclose a floppy disc containing the text of the contribution processed by Word Perfect on an IBM-compatible computer, by one of the Apple Macintosh word processors (MacWrite, Microsoft Word), or as a text-only file.

Instruction to Authors

Please follow the style adopted in the Annals, and present the typescript with double spaced lines and wide margins. Tables and Figures, each with their captions, must be attached separately from the text. It is particularly important that your references are complete and follow the examples given below.

Neufeld, V.R., & Barrows, H.S. (1974). The McMaster philosophy: An approach to medical education. *Journal of Medical Education, 49,* 1040-1050.

Elstein, A.S., Shulman, L.S., & Sprafka, S.A. (1978). *Medical problem solving: An analysis of clinical reasoning*. Cambridge, MA: Harvard University Press.

Coulson, R.L., & Osborne, C.E. (1984). Insuring curricular content in a problem-based learning program. In: H.G. Schmidt, & M.L. de Volder (Eds.). *Tutorials in problem-based learning*. Assen, The Netherlands: Van Gorcum.

Norman, G.R., Muzzin, J.L., & Rosenthal, D. (1985). *Expert-novice differences in perception and categorisation in dermatology*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago.

Volume 3
1990

Published by
the Network of Community-Oriented
Educational Institutions for Health Sciences

Annals of Community-Oriented Education

PART II

Editors
C. Engel, G. Majoor, P. Vluggen

© Copyright 1990
Network of Community-Oriented Educational Institutions for Health Sciences

CIP-Data Koninklijke Bibliotheek, Den Haag

Annals

Annals of Community-Oriented Education / Network of Community-Oriented Educational Institutions for Health Sciences. - Vol. 1 (1988) - ..... - Maastricht: Network of Community-Oriented Educational Institutions for Health Sciences
Appears annually
Annals Vol. 3, Part II, 1990 / eds. C.E. Engel, G.D. Majoor, P.M.J. Vluggen
With ref.
ISBN 90-73026-03-2
SISO 603.3 UDC 37:61
Subject heading: medical education.

Annals of Community-Oriented Education
August 1990
Volume 3

© Copyright 1990
of the Network
of Community-Oriented
Educational Institutions
for Health Sciences

CONTENTS

Page
Preface 13

INVITED PAPERS

Problems met in establishing links with the regional health care systems: the case of Maastricht

1. Synopsis of the History of the Faculty of Medicine, University of Limburg 15
Edward G. Steur, University of Limburg, The Netherlands
2. Perspective on the Collaboration between Primary Health Care and the Maastricht Faculties of Medicine and Health Sciences 19
Frans C. van Wijmen, University of Limburg, The Netherlands
3. Perspective of the Academic Hospital 25
Jacobus M. Greep, University of Limburg, The Netherlands
4. A governmental View of the Relationship between the University and the Regional Health Care System 33
Geert M. van Etten, Ministry of Welfare, Health and Cultural Affairs, The Netherlands

Strategies for establishing partnership of academic institutions and health care systems

1. Interactions of Academic Institutions and Health Care Systems as Partners in Health Development 37
John H. Bryant and Noordin M. Thobani, The Aga Khan University, Pakistan

2. Strategies for Collaboration between Medical Schools and Health Care Systems in Nigeria: The Bayero University Kano Experience 53
Olanipekun K. Alausa and Mahmud A. Ennin, Bayero University, Nigeria
3. The Newcastle Experience 63
Nicholas A. Saunders, University of Newcastle, Australia
4. Activities and Strategies to Link Ministry of Public Health and University 69
Vanchai Vatanasapt, Pisit Sanpitak, Somdej Pinitsoontorn, Arporn Prabriputaloong, Sumit Sutra, Aroon Jiravatanakool and Suvat Lertsukprasert, Khon Kaen University, Thailand

CONTRIBUTIONS BY PARTICIPANTS

Collaboration between academic centers and health care systems

1. The Interface between Health Services and Colleges of Medicine in the Training of Physicians 73
Ahmed M. Alkafajei, University of Mosul, Iraq
2. Community-Based Education with its Problems in a Developing Economy: Ile-Ife Experience 77
J. Kole Bamgbose, Obafemi Awolowo University, Nigeria
3. Developing an Efficient Health Care System in an Underdeveloped Rural Area in India: A 12 Years' Experience 79
G.K. Banerjee, Rural Medicare Centre, India
4. The Community Medicine Development Foundation, Inc. 81
Dennis B. Batangan, COMMED, The Philippines
5. Community-Based Medical Education as a Tool for Strengthening the Health Team Approach in Developing Countries 83
D.S. Belin, Bayero University, Nigeria
6. Non-Governmental Organisations as Partners for Health Faculties 85
M.S. Boikhan, Pakistan Medico International, Pakistan
7. The Institute of Health Sciences and the Department of Health Partnership for Health Development in Leyte, The Philippines 89
Rolando O. Borrinaga and Isabel T. Koh, University of The Philippines Manila, The Philippines

8. Experiences from Ashanti Region, Ghana 95
Edmun Nii Laryea Browne, University of Science and Technology, Ghana

9. The Somali Medical Faculty and its Adaptation to Health Care Developments 97
Willem F. Buschkens, Leiden University, The Netherlands and Somali National University, Somali

10. Development of an Educational Space in the Community 103
Pablo Carlevaro, Universidad de la Republica, Uruguay

11. Community, Primary Health Care and the Faculty of Medicine 105
Harrie Crebolder, Ferd Sturmans, René Kocken and Job MetsemakersUniversity of Limburg, The Netherlands

12. Community Mobilisation in Health Care Development 107
Stacey B. Day and Charles C. Effiong, University of Calabar, Nigeria

13. Community-Oriented Medical Education for North America: A New Consortium 117
Stewart Duban and Arthur Kaufman, University of New Mexico, USA

14. Strategies to Improve Cooperation of Academic Centres and Health Care Systems in Africa 119
Ehigie Ebomoyi, Tulane University, USA

15. Community-Based Medical Education: Bayero Experience 121
Mahmud Ahmed Ennin, Bayero University, Nigeria

16. Medical School and Community Linkage in Confronting Major Health Concerns: The Case of Alzheimers Disease 123
Michael Glasser, Patricia Campione, Mary Dickover and Nancy Garry, University of Illinois at Rockford, USA

17. Designing Instruction on Human Reproduction: A Process of Innovation Diffusion 125
A. Hidajat, Andi Ansharullah and M. Arif, Brawijaya University, Indonesia

18. Community Health Science: A Catalyst for Change 127
Adnan Ali Hyder, The Aga Khan University, Pakistan

19. Community and Family Case Study Programme at the Universiti Sains Malaysia: An Experience in Self-Directed, Contract Learning 129
Rogayah Jaafar and Mohd. Hashim Mohd. Hassan, Universiti

Sains Malaysia, Malaysia
20. Planning and Preparation for Innovation in Medical Education in India 133
P.S. Jain, Medical Council of India, India
21. Primary Health Care Cannot be Taught in a Vacuum 135
Abraham Joseph, Christian Medical College, India
22. A 4-Year Experience in the Coordination of a Community-Based Programme Implemented with the Health Care System 137
Leila M.. Makhlouf, Suez Canal University, Egypt
23. The Psycho-Social and Bio-Clinical Curriculum in a School of Medicine 139
Hernando Matiz, Escuela Colombiana de Medicina, Colombia
24. The New Mexico Experience: Ten Years Later 141
Stewart P. Mennin, University of New Mexico, USA
25. Cooperation between Academic Institutions and Health Care Systems: The Christian Medical College, Vellore Model 143
Booshanam Vasanthakumar Moses, Abraham Joseph and Abel Rajaratnam, Christian Medical College, India
26. Acquired Immuno-Deficiency Syndrome - "Aids": A Challenge to Primary Health Care in Africa 145
Itai T. Mupanduki, Univerzity of Zimbabwe, Zimbabwe
27. The Role of a Faculty of Health Sciences during the 21st Century 149
Peter Mokua Nyarang'o, Moi University, Kenya
28. Evaluation of the Effectiveness of Illiterate Market Agents in the Provision of Primary Health Care in Ibadan City, Nigeria 151
Maria Odegbaro, Suny Downstate Medical School, USA
29. Drug Habits of the Rural Community within the Concept of Community-Based Medical Education and Services Programme in Kano State of Nigeria 153
Ayoola Olatunde and Lawal Alhassan Bichi, Bayero University, Nigeria
30. The University of Maiduguri Teaching Hospital Experience 155
M.K.O. Padonu and Bashir Umar, University of Maiduguri, Nigeria
31. Developing Appropriate Medical Manpower: A Philippine Experiment 157

Arturo M. Pesigan and Ruben N. Caragay, University of The Philippines, The Philippines

32. The Negev Project: Continuation of the Beer Sheva Experiment in Medical Education 161
Basis Porter, Ben Gurion University of the Negev, Israel

33. The Health Care System: A Non-Governmental Medical College Approach 167
Ved Prakash, R.K. Sachar and R. Sehgal, Dayanand Medical College, India

34. International Aspects of Governmental and Academic Health Centre Relationships 173
Moshe Prywes, Ben Gurion University of the Negev, Israel

35. Is there a Role for Academic Institutions in the Primary Health Care Leadership Crisis? The Gezira Experience 175
Ibrahim M. Rahim, University of Gezira, Sudan

36. An Experience of Community-Oriented Training of Public Health and Community Medicine Specialists 183
Giovanni Renga, Franco Cavallo, Francesco Di Stanislao, Patrizia Lemma and Rossanna Becarelli, Universita degli Studi di Torino, Italy

37. Training Health Workers for EffectiveImmunisation 185
V. Sampathkumar, J. Anbarasi, Solomon G. Victor, F. Vatsala Ebenezer, S. Stalin Gnanasigamani, Ruth B.L. Daniel, Kuryan George, Rajaratnam Abel, T. Jacob John and Vinohar Balraj Rajaratnam, Christian Medical College & Hospital, India

38. Linking Medical Education and Health Care through a Health Information System 191
Rossi Sanusi, Gadjah Mada University, Indonesia

39. Academic Institutions and Health Care Systems as Partners in Health Care Development: The Chiang Mai Experience 193
Kamjad Swasdio, Chiang Mai University, Thailand

40. Cooperation between the Health Care System and the Medical Faculty in Temuco 197
Cesar Torres and Fernando Muñoz, Universidad de la Frontera, Chile

41. A Health Policy Programme in Östergötland, Sweden 199
Erik Trell, K. Berglund, L. Ljungdahl, O. Lofman, L. Perers, I. Rahm and L. Rydin, University of Linköping, Sweden

7. The History and Philosophy of Science and Medicine in Training the Physician 235
Jaime Escobar, Escuela Colombiana de Medicina, Colombia
8. Faculty Mentors for Medical Students 239
Dale H. Flach and Neil R. Nelson, University of Illinois at Rockford, USA
9. Health Services Research Data Base: A Prerequisite for Developing Curriculum in Primary Care 241
Mohan L. Garg, University of Illinois at Chicago, USA
Craig E. Booher and Richard G. Christiansen, University of Illinois at Rockford, USA
10. Application of Learning Principles in Problem-Based Learning 243
Fatma Hassan and Esmat Ezzat, Suez Canal University, Egypt
11. Role of Laboratories in Community-Based Medical Programme and its Impact in Integration between Community Health and Health Sciences 247
Khalifa I. Khalifa, Suez Canal University, Egypt
12. Comparing Detailed and Concise Checklist as a Tool for Evaluation of Clinical Skills 249
Somaya Hosny Mahmoud, Yaser Elwazir and Taymour Khattab, Suez Canal University, Egypt
13. Electives and Writing a Scientific Paper 251
S. F. Knutsen, A. Tollan, J. Magnus and O. Grundes, University of Tromsø, Norway
14. Comparing the Content of a Medical Curriculum with Primary Health Care Data 257
Job Metsemakers, Peter A. Bouhuijs and Hetty A. Snellen-Balendong, University of Limburg, The Netherlands
15. Innovation in Oman 259
John Musgrove, Sultan Qaboos University, Sultanate of Oman
16. Problems of Management in the Initial Period of Implementing Educational Change 265
Sharifah H. Shahabudin, University Kebangsaan Malaysia, Malaysia
17. Multi Professional Education of Health Workers in Nepal 271
Madan P. Upadhyay and Jimmie Tamsang, Tribhuvan University, Nepal
Lal K. Gurung, Nursing Campus Birgunj, Nepal

42. Academic Institutions in Health Care Development: A Nepalese Experience 205
Madan P. Upadhyay and Jimmie Tamsang, Tribhuvan University, Nepal
Hari M. Subba, Nursing Campus, Biratnagar, Nepal
43. Rural Training of Residents in Paediatrics 211
B.N.S. Walia, Rapesh Kumar and Vyay Kumar, Postgraduate Institute of Medical Education & Research, India
44. The Implementation of Credit Semester Curriculum of the Medical Faculty, Sam Ratulangi University, in Supporting the National Health System of Indonesia 213
Winsy F.Th. Warouw and B.H. Moningka, Sam Ratulangi University, Indonesia
45. The Function of General Teaching Hospitals in Community-Oriented Medical Education 215
Chen Zhi Xing, Shanghai Second Medical University, People's Republic of China

New educational approaches

1. Attitude of Medical Students towards the COBES Programme 217
Mike Adedoyin, University of Ilorin, Nigeria
2. Teaching Epidemiology to Medical Students: the Use of Popular Literature for Pedagogical Effectiveness 221
Samia W. Altaf, Development Research and Management Services, Pakistan
3. The Definition of Educational Objectives on the Basis of Problem Solving Process in the "Curriculum Parallelo Sperimentale" in the Medical School of Bari, Italy 223
Giuseppe de Benedictis, University of Bari, Italy
4. A New Approach to Community-Based Health Care and the Medical Curriculum 225
John H. Bryant, Camer Vellani, Salim Sohani, K.S. Khan and Rozina Karmaliani, The Aga Khan University, Pakistan
5. Teaching Clinical Competence in Pre-Clinical Years 231
Jan van Dalen, University of Limburg, The Netherlands
6. Problem-Based Distance Learning 233
Charles E. Engel and Angela Towle, Wellcome Tropical Institute, United Kingdom

18. Responsibility of Governments in Reform of Medical Education 273
Henry J. Walton, World Federation for Medical Education, United Kingdom
19. Innovation in Electives: The Universiti Sains Malaysia Experience 275
Wan Abdul Manan Wan Muda, Universiti Sains Malaysia, Malaysia
20. Educational Programme for Primary Health Care Physicians 281
Janusz Wasyluk and Sbigniew Wegrzyn, The Medical Center of Postgraduate Education, Poland
21. Developing Cases for Community-Based, Problem-Oriented Learners 283
Robert E. Waterman and Stewart P. Mennin, University of New Mexico, USA
22. Experience with a Three Year's Problem-Oriented Basic Medical Sciences Curriculum 285
Zhang You-zhang, Li Xue-min and Wang Yi-fei, Shanghai Second Medical University, People's Republic of China
23. An Innovative Epidemiology Undergraduate Degree - Potential for Linking Academic and Service Institutions 287
Anthony Zwi, University College and Middlesex School of Medicine, United Kingdom

Curriculum evaluation and student assessment

1. Implementation of a Student-Centred and Community-Oriented Curriculum in Sherbrooke: Experience of the First Two Years 293
Bertrand Dumais and Jacques E. Des Marchais, University of Sherbrooke, Canada
2. Testing a Short Term Training Programme for Yamani Students at Suez Canal University Skills Laboratory 295
Yaser Elwazir, Somaya Hosny, Esmat Ezzat and Salma Elghandour, Suez Canal University, Egypt
3. Preceptor Evaluation: An Aid in the Development of Primary Care Clerkships for Undergraduate Medical Students 297
Helga van den Elzen and Peter A. Bouhuijs, University of Limburg, The Netherlands
Marty Kantrowitz, Stewart Mennin and Agnes Rezler, University of New Mexico, USA

4. Assessment of Students' Perception of their Benefits from Learning by both Problem-Based Learning and Community-Based Education at the Faculty of Medicine, Suez Canal University, in Achieving the Optimal Physician Performance 299
Abeer Galal-El-Din, Huda El-Sayed and Hanan Mouhamed, Suez Canal University, Egypt

5. Evaluation of Training on Community-Oriented Primary Care for Family Medicine Residents in Jerusalem 301
J. Gofin and R. Gofin, The Hebrew University-Hadassah, Israel

6. Students' Perception of Field Projects 303
Fatma Hassan, Amr Hassan and Esmat Ezzat, Suez Canal University, Egypt

7. A Statistical Model for the Measurement of Growth in Medical Knowledge 311
Tjaart Imbos, Ronald Does, Michel Janssen, Frans Tan and Maarten Verwijnen, University of Limburg, The Netherlands

8. Assessment of Attitudes of Faculty Staff at Suez Canal University towards Community Participation 313
M. Khattab, Suez Canal University, Egypt

9. A Method for the Assessment of Problem-Based, Community-Oriented Medical Education 315
Mark Knudson and Ann Frye, Wake Forest University, USA

10. Do we Really Need Tutors in Small Tutorial Groups? 323
Irma Kokx, Henk Schmidt, Arie van der Arend and Louis Boon, University of Limburg, The Netherlands

11. How does Undergraduate Medical Education Correspond to the Practical Needs of Primary Health Care in Finland? 325
E. Kumpusalo, K. Mattila, I. Virjo, L. Neittaanmäki, V. Kataja, S. Kujala, M. Jääskeläinen, R. Luhtala and M. Isokoski, Kuopio University, Finland

12. Curriculum Revision at Sherbrooke: Transforming Content into Problems 327
Charles P. Leduc and Jacques E. Des Marchais, University of Sherbrooke, Canada

13. Experiences in Performance-Based Testing 329
Scheltus J. van Luijk and Cees P. van der Vleuten, University of Limburg, The Netherlands

14. Curriculum Revision: Renovation of an Innovative Approach 331
Gerard D. Majoor and Hetty A. Snellen-Balendong, University of Limburg, The Netherlands
15. Assessing Factors Influencing Student Learning in Implementing and Improving Problem-Based Learning in Sherbrooke 337
Jacques E. des Marchais, Robert Black and Sophie Michaud, University of Sherbrooke, Canada
Henk Schmidt, University of Limburg, The Netherlands
16. Evaluation of Elective Studies: Teacher versus Student Peer Assessment 339
Adel Mishriky and Esmat Ezzat, Suez Canal University, Egypt
17. Students' Perception of the University of Ilorin Medical Course 345
Toye Ogunbode, University of Ilorin, Nigeria
18. Educational Gain by Students Training in Community Health CareSettings 353
Amany Refaat and Zohair Nooman, Suez Canal University, Egypt
19. Factors Influencing the Commitment of Faculty Members to the Concept of Community-Based Education 359
Amany Refaat and Esmat Ezzat, Suez Canal University, Egypt

Preface

International conferences are organised to promote the exchange of information, views, and opinions among participants. Usually, this exchange takes place in formal meetings but additionally, and in a possibly more optimal way, during breaks, meals, and social events. The 1989 Network Conference, organised on the occasion of the 10th anniversary of the Network, in Kerkrade, The Netherlands, was no exception to this general description. Most likely, participants afterwards expressed their enthusiasm about the meeting because they found time for many informal contacts, in addition to the formal presentations. However, the combination of parallel oral and poster sessions with informal contacts made it physically impossible to hear and see everything which seemed of interest. Therefore, the Conference Organising Committee was delighted that the Editors of the *Annals of Community Oriented Education* agreed to publish the proceedings of this Conference as Part II of Volume 3. This has enabled speedy publication of the papers based on oral or poster presentations. For the sake of completeness, abstracts of presentations, for which no paper was submitted, have also been included in this Volume. Communications appear in the following order: invited papers and contributions by participants.

Conference proceedings may (as stated by Eric Goon in the previous Volume of the *Annals* with respect to WHO publications) "languish on the shelves of bookcases or lie buried under piles of other documents, unwanted and unmourned except perhaps by their authors". I am sure this Volume will not. Although nobody is expected to read this Volume from cover to cover, some conference participants will be happy to refresh their memory on some presentations heard or seen during the Conference. Those who are interested in *education of health professionals* or in *problems associated with establishing links between academic institutions and health care systems* will be attracted by several titles in the Table of Contents. I hope the reader, while browsing through this Volume, will gain some appreciation of the spirit which inspired the participants during this Conference.

Gerard Majoor
University of Limburg
Maastricht, The Netherlands
Conference Coordinator

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 15 - S 18

INVITED PAPERS

Problems Met in Establishing Links with the Regional Health Care Systems: The Case of Maastricht

Synopsis of the History of the Faculty of Medicine, University of Limburg

Edward Steur
University of Limburg
Maastricht, The Netherlands

Abstract

The history of the Maastricht School of Medicine starts in 1969, when the decision was taken to establish an 8th medical school in The Netherlands.

In a "Basic Philosophy", published in 1972, innovative ideas for the school were presented with regard to the type of doctors to be educated, the organisation of the school's research, and its collaboration with the health care system. With respect to the latter issue it was decided, after ample discussions, to emphasize Primary Health Care in the Faculty's programmes, but also to build a new academic hospital. Some of the political issues that influenced these decision are discussed.

Introduction

The synopsis of the history of the Faculty of Medicine presented in this paper covers a period of at least 20 years. For it was in 1969, that the decision was taken to establish an 8th School of Medicine in The Netherlands. The reasons for the 1969 decision included several factors: a) in the sixties, the assumption was that The Netherlands would have a population of 20 million by the year 2000. Accordingly, it was decided that educational capacity was insufficient to meet the future requirements for medical practitioners; b) in the sixties, the Dutch government decided to close the mines in South Limburg and this increased unemployment in the province by many tens of thousands, and c) For many years there had been demands from South Limburg for an institution of higher education.

Request for reprints should be sent to Edward Steur, University of Limburg, Faculty of Medicine, POB 616, 6200 MD Maastricht, The Netherlands.

A commission was established by the government to prepare for the new school of medicine, and this commission was confronted by three major problems: 1) the consequences of the contraceptive pill became obvious. The demographic predictions had to be revised. In the year 2000 the population would stabilised at around 15 million; 2) as a result of the oil crisis at the beginning of the seventies, government finances had come under considerable pressure, and 3) in the region itself, there was disagreement about the place of a school of medicine, and possibly a University Hospital, within the context of the existing facilities.

The Ministry of Education and Science fell silent in the face of these problems, but the Ministry of Health entered the debate. This Ministry was confronted with an enormous increase in the cost of the health care system. The fear was that a teaching hospital in South Limburg would result in a major surplus of beds and, indeed, in an enormous oversupply of health care facilities. The seven other schools of medicine also began to express doubts about an eighth school.
The preparatory commission felt it necessary to find additional support for the decision to establish the new school in Maastricht. It would be necessary to reach a compromise between the new institution and the medical establishment in the region which was concerned about encroachment upon its territory.

A new sense of legitimacy was discovered in the basic philosophy for the new school, published in 1972. The background to this basic philosophy means that the document must primarily be regarded as a political manoeuvre. Since that time, it has always had supporters and opponents.
The basic philosophy provided an analysis of the problems which had begun to arise in universities and the health care system, against the background of philosophical ideas then in vogue. The most relevant of these ideas were those reflecting a growing concern in society with the role of the university, an increasing understanding of the importance of behavioural factors in public health, and an enormous explosion in the cost of health care. Indications were given how a new medical school could provide solutions to these problems.

The first solution was in education. Doctors, it was suggested, should be trained to recognise problem issues in the health care system. As these would differ from place to place and time to time, physicians had to be able to respond to changes in the course of their careers. This lead to a more generalist approach to medical education rather than highly specialised training in (sub-) disciplines. As the learning behaviour of future doctors was considered pivotal, he/she should benefit from the latest

educational insights.
The second solution was to be found in medical research. Here emphasis should be on common symptomatic pathologies, using a multi-disciplinary approach; efforts should be directed primarily at the immediate applicability of the research results. There has been more debate in Maastricht on this objective and the degree to which it has been achieved than on the educational system itself. The separate disciplines have tended to find their way back to old patterns of research. The Government also makes demands on research output from all the universities in The Netherlands. This does not mesh well with Maastricht's special role.

The third solution derives from the basic philosophy and is the most hotly debated. It is concerned the way in which the School of Medicine should collaborate with the health care system in the region. The advantages would be the prevention of expensive overlap and increased attention to primary care. It was decided to develop for this purpose a new institution, the Regional Medical Centre, which would coordinate and facilitate collaboration.

The year 1974 was important in the history of the school of medicine. The first students arrived, and the staff assembled. As the initial phase was primarily concerned with pre-clinical subjects and behavioural sciences, decisions on the teaching hospital could be delayed. The first members of staff were largely biomedical and behavioural scientists. There were scarcely any clinical specialists. This is perhaps why the issue of the teaching hospital received little attention, and regional cooperation was strongly supported by the Faculty. Important decisions on the part of the central government remained in abeyance, and it is not inconceivable that - had the Preparatory Commission not taken the important step of admitting students - the Government might have gone back on its 1969 decision.

For that reason, 1976 was another important year. It was the year in which the Queen officially opened the University of Limburg. The staff began to expand with the inclusion of the clinical disciplines. They pointed out that the existing St. Annadal Hospital in Maastricht was inadequate as a teaching hospital. They mortgaged the cooperative effort which had been supported until that time. Friction developed in the Regional Medical Centre.
How should the roles of the three major hospitals in the region evolve? Surely there would be problems within the hospitals when some departments were raised to teaching hospital status and others not? Many other questions remained unanswered.

In retrospect one might say that it was perhaps naive to expect cooperation without any power to implement reorganisation, when the central Government had been spectacularly unsuccessful in the same task. And so the Regional Medical Centre died an easy, and possibly, bureaucratic death. Moreover, the Faculty did not perform well in human resource management. There was a lack of intellectual power in those disciplines concerned with primary health care, and there appeared to be neither mental nor moral commitment of the clinical disciplines to the ideas of the basic philosophy.

After extensive internal and external debate, the University's governing board and the St. Annadal Hospital drew up a document in 1980/81: "The objectives of a policy for the Maastricht University Hospital".

In this document there was a clear commitment to build a new teaching hospital. The influence of the basic philosophy was easily recognisable. Considerable attention would be given to cooperation with Primary Health Care. However, the supra-regional role of the University Hospital was confirmed.

Between 1980 and 1984 there was a great deal of debate about the building of a new University Hospital. Its opponents accused the school of betraying the basic philosophy. The Minister of Education appeared to support this point of view for some time; after all it was going to cost a great deal of money. Nevertheless, in 1984, he gave permission for the new building.

In conclusion, it is important to point out that at the time when the Minister took this decision on the new building, he also designated Maastricht's Medical School as a Faculty which was to focus its attention on extramural health care. This meant Primary Health Care, in particular, for which he allocated additional funds. Elsewhere in this volume Van Wijmen will discuss cooperation of the Maastricht School of Medicine with Primary Health Care.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 19 - S 23

Perspective on the Collaboration between Primary Health Care and the Maastricht Faculties of Medicine and Health Sciences

Frans van Wijmen
University of Limburg
Maastricht, The Netherlands

Abstract

The original view to establish in Maastricht a "Primary Health Care Faculty" was soon abandoned, and equal priority was given to the conversion of the Maastricht hospital into an academic teaching hospital. However, the urge to emphasize the importance of primary health care has remained. Also some general practices were formally contracted for cooperation in education and research, whereas many others are associated with the Faculty. The Faculty intends to strengthen and expand such cooperation on the basis of full reciprocity between education, research and health care.

Introduction

As a former executive of the Board of Governors of the Maastricht Academic Hospital, 1977 - 1982, and closely concerned with the development of both primary health care and the Faculties of Medicine and Health Sciences I would like to concentrate on one question. What can we learn from fifteen years' of interaction and growing cooperation between primary health care and the Faculty of Medicine and later also the Faculty of Health Sciences?

I will begin with a few comments on the social developments since World War II as the context for health care developments in general and the climate for the birth and development of the Maastricht Faculty of Medicine in particular. I realise that I will outline the picture of a western society with rather luxurious problems in comparison with many of the countries represented at the conference.

Based on the aims of the Medical Faculty, as laid down in the 'basic philosophy', I will briefly survey fifteen years of development in the Faculty of Medicine and

Requests for reprints should be sent to Frans C.B. van Wijmen, University of Limburg, Faculty of Health Sciences, POB 616, 6200 MD Maastricht, The Netherlands.

nearly ten years in the Faculty of Health Sciences in relation to primary health care in the region.

Some Historical Notes

The years after World War II were characterised in Europe by restoring the social and political system and by rebuilding the community. A degree of prosperity came about, followed by consolidation and the possibilities of growth and social stabilisation. The seventies were characterised by democratisation and emancipation of minority groups and by a growing influence of government. The 'affluent society' was disturbed by the oil crisis in 1973 and a strong economic recession in the late seventies. After quick changes in policy in the eighties, the Dutch government reduced its involvement, and slogans like private initiative and free market mechanisms dominate the social scene today.

Health Care Developments

Looking at the development of health care in the same period we see, as a matter of course, clear parallels. Financial-economic restoration in the sixties was symbolized by the construction and legalisation of a far-reaching social security system and by the expansion of hospitals. Attempts to socialise health care did not succeed and were overruled by private initiative. As a result of unlimited growth, tensions as well as imperfections and lack of balance were revealed in the early seventies: in particular primary health care was revealed as an underdeveloped area. Cheaper home-care should replace as much as possible expensive, highly specialized care in hospitals. To place the birth of the Maastricht Faculty of Medicine in its right context these facts must be emphasized.

In 1974 a pretentious plan was set up to reform the health care system, with strong emphasis on planning and control, and with the intention to embed this in a coherent system of legislation. Evidence of democracy could be seen in the exhaustive planning procedures; moreover patients pressure groups called for recognition of patients' rights. In spite of government policy, consolidation of primary health care was not a success. In general, as well as in health care, resistance to State-intervention by the state increased in the eighties, and moves were made to diminish regulation and legislation. Solving economic problems was the main policy, and in 1987 plans for far-reaching reforms were announced. Watch words of today are flexibility, substitution of care, functionalism, withdrawal of government, self regulation and stimulation of free market mechanisms, in which product and price are settled in negotiations by insurance companies, health care providers and patients' representatives. From a distance government safeguards basic quality, equity of access and distribution of care.

Impact of Political Decisions on the Maastricht Faculty

As pointed out by Dr. Edward Steur elsewhere in this volume, the establishment of the Faculty of Medicine in Maastricht was supported by a new political promise, symbolised by the Faculty's 'basic philosophy'. A leading principle was close interaction between the Faculty and regional health care. A special definition of this concept was given in an international conference in 1972 in Paris: the Regional Health University. The new educational formula in Maastricht (problem-oriented, student-directed and interdisciplinary) facilitated open communication with health care. Medical students experienced health care practice at an early stage of their studies, especially in primary health care settings. The research programme, properly embedded in regional health care and addressing actual problems of the community, set out to offer many linkages with health care practice. Size and importance of the academic hospital were relegated. The Faculty of Medicine was to concentrate on primary health care practice and on the vocational training of general practitioners. In short, Maastricht should become a 'Primary Health Care Faculty'.

After fifteen years we have to conclude that these plans worked out differently. With great spirit the educational programme was set up by a teaching staff in which biomedical and psychosocial sciences were amply represented. Soon the necessity for clinical training arose, and the only hospital in Maastricht had to be converted in to an academic hospital.

In the late seventies and early eighties we could see the rise of clinical departments which now tend to dominate the Faculty staff.

In 1980, the Faculty of Health Sciences (HSF) was set up, the first of its kind in the Netherlands. From the beginning, there were some links with the Faculty of Medicine in dual appointments and in research.

HSF started with three programmes: health education, health policy and nursing sciences. Soon the Faculty extended its programme to include human biology, mental health care and health care philosophy. After a few years, organisational and financial problems arose, which eventually resulted in educational reforms.

The Faculty of Medicine is now troubled with similar problems which are likely to lead to reorganization and staff reduction for many of its departments. In its relationship and cooperation with primary health care the Faculty was at first fully occupied with developing its brand-new educational programme. The Faculty uses primary health care, in particular general practitioners' practices, to orientate students towards primary health care. General practitioners hesitated to cooperate, feeling insecure about the consequences but being attracted by a chance to build up connections with the University. Step by step, a network of general practitioners was developed across the province of Limburg. From the practitioners came complaints about one-way traffic: lack of appropriate financial arrangements, and unmistakable jealousy of the growing academic hospital.

In the national context, however, the Maastricht Faculty of Medicine was considered superfluous, and aspirations for a new building for the academic hospital did not suit the economic policy of the government. For socio-economic reasons the promise for a new building was evoked by the government, together with restriction of academic tasks to primary health care. Therefore plans were worked out for a few primary care practices to become academic centres. However the participating primary health care professionals were soon disappointed; the Minister of Education praised the plans but provided no funds.

At the same time complexity increased, because the government proclaimed a new policy in primary health care which called for the cooperation of four disciplines in particular: general practice, district nursing, welfare and institutions of family care. Lack of money prevented the Faculty of Medicine from adapting to this development.

The Faculty contracted a few general practices to participate in education and research. With a growing number of practice appointments staff were pooled and thus relationships were formalized. Attention has moved slightly towards research; in recent years the Faculties of Medicine and of Health Sciences have developed, individually and together, research programme in and with primary health care.

A review of these developments, the reluctant adoption of opportunities and failures in fulfilling promises reveals a number of partly overlapping aspects.

1) The basic philosophy was not strong enough to survive the violence of conviction of traditional health care concepts; government at first did not support the philosophy and later on used it for reasons of economy, and many academics did not adopt the new ideas and paid only lip service to cooperation with primary care; 2) the environment did not favour development in the intended direction; the system in all its parts was based upon old concepts of medical education and health care organization; financial mechanisms did not enable the Faculty to test new models of

cooperation; 3) the government showed lack of vision, socio-economic opportunism, uncertain and unstable policy. Although the Government decided to set up the Medical Faculty because of the new philosophy, it did not support the Faculty in maintaining the philosophy; on the contrary, it focused on highly specialized medical care. Later, when it was too late, the government tried to enhance its reputation by forcing attention on primary care; 4) within the Faculty of Medicine preoccupation with clinical medicine soon prevailed. Solid research programmes consolidated this situation. Hospital care was better organised and attracted more money; 5) the Faculties of Medicine and Health Sciences failed in developing and innovating primary health care; general practices were mainly used for student orientation and vocational training, and 6) primary health care itself was (and still is) weak, badly organised and incoherent. Activities are mainly inspired by fear and distrust; there are tensions between the four disciplines which are supposed to cooperate. Research capacity of good quality is scarce in primary care.

Nevertheless Faculty policy has changed for the better, for example with the establishment of a chair for the coordination of education in primary health care. Some of the more recent developments are: 1) short term contracts with general practices for student orientation, clerkships and postgraduate vocational training; 2) Long-term contracts for innovation in medical education and vocational training, for data collecting in general practices, and research in primary care; 3) focus on innovation both in education and research; 4) involving approximately 50% of all general practitioners in the region, and 5) evolving an academic discipline in primary care.

The aim must be cooperation on the basis of full reciprocity between education, research and health care.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 25 - S 31

Perspective of the Academic Hospital

Jacobus M. Greep
University of Limburg
Maastricht, The Netherlands

Introduction

The primary call of this conference is to share ideas and experiences about how academic institutions and health care systems may cooperate as partners. I have the humble task to talk about the perspectives of the academic hospital. I will talk about the problems of the transformation of the local Maastricht hospital St. Annadal to the Academic hospital Maastricht.

The Medical Faculty

When we started our medical school it was recognised that several factors influenced the eventual practice behaviour of individual doctors. The goal of medical education should be to train physicians that will contribute to the elevation of the burden of illness of their patients in the community.

We created a problem-based practice model that differed from traditional practice models in that it includes not only patients who seek medical care but also those individuals in a given population who do not or cannot seek care.

Institutions should have the ability to analyse the burden of illness of the regional population and to determine the problems with the highest priority. These priority health problems should then be given special consideration in the educational material and events of the curriculum. In many traditional schools medical students have spent most of their time in lecture halls, libraries, laboratories and tertiary care hospitals and the relation with day to day practice is hard to find.

Because of our philosophy, we thought it was sensible to have students spend part of their time in primary care settings for these medical educational settings should simulate as closely as possible the eventual practice. In primary care they will see a representative range of health problems, see a health professionals role model in action, and learn about the practical problems and the advantage of practice outside teaching hospitals.

In using both the primary care setting and the hospitals in the area we were able to use the whole spectrum of care. To organise this we took steps to get the local hospital under control, and at the same time to involve the health care of the total population. So we had the right mix, the specialists' hospitals and the primary care physicians responsible for the primary care units. All contracted physicians should be educators taking the initiative to provide scientifically-based health information to the general public and to the student groups.

Practicing physicians should contribute quantitative information for the purpose of describing their own practice but also for epidemiological research.

Health Care and Medical Education

Health care is a political issue for political parties and governments on one side, and for management and health care workers on the other. The problems concerning the health of a population should be reflected in medical education. The place and function of medical faculties, medical centres, educators, planners and the ministry therefore are of great importance.

In the seventies different views of medical education developed. John Evans and Kerr White have been the founders of innovative medical education and a problem-based approach; they postulated that medical establishments and medical educators should give high priority to the education of a new type of doctor who should be able to measure, manage and monitor health problems. To do so, the introduction of epidemiological thinking in health policy and anticipating health problems is of great importance for future planning. The traditional medical curriculum with a great number of rather independently taught subjects (teacher-centred) has been replaced by a system in which students work together on population-based problems presented by the faculty. Traditional medical schools have been said to emphazise research at the expense of service and teaching. In our faculty teaching is an important tool for faculty function and promotion.

Changes in Medical Education

The primary criticisms of medicine today are that medicine is not efficient and that it is not equally distributed. When we started our medical faculty, the country faced financial and organisational problems in health care. Because of the fact that resources were diminishing, demands and expectations were growing.

Patients also to various extent describe alienation from medical practitioners who cannot talk to or with them and cannot understand or respond appropriately to the problems patients perceive. In extreme situations such as terminal care or experimental care of untreatable problems, ethical issues and dismaying examples of dehumanisation can occur.

The social, intellectual, and educational critique suggests that modern medical schools have in part failed to produce adequately trained persons or ones with inappropriate values and intellectual beliefs. They have furthermore not met community needs nor demonstrated sufficient concern for the learning and personal needs of the individual learner. Future health practitioners have to meet the changing needs of society in social, economic and technological respect. The traditional educational system of transferring knowledge has to be replaced by a system in which students actively investigate and explore the discipline at their own initiative. It is expected that students assume their own responsibility.

The aim of the curriculum is that students, after having completed their programmes, will not only have ready medical knowledge and a variety of skills a physician needs, but also an increased problem-solving capability. Moreover, they should have knowledge about risks and cost benefit analysis.

It is of utmost importance that students will acquire an attitude which enables them to perform professionally with understanding and feeling for medical affairs, and with willingness to constantly evaluate their own work and so improve its quality creating an attitude of permanent self-education. Not the closing of the mind by spoon-fed education and lots of examinations, but peer discussions and teaching as Plato and Socrates already introduced are at aim. This philosophy contains no passive consuming, but active searching with a close relationship to theoretical and practical education straight from the beginning.

To respond to this line of argumentation, new and old medical schools have to develop innovative educational programmes that change the structure of education and alter the place and orientation to the population and community in health care. In addition it is based on new theories and new experiments. These efforts are now more than (a) decade(s) old. McMaster, Canada, 20 years, Maastricht, The Netherlands, 15 years, New Castle, Australia, 10 years.

The Local Hospital in Maastricht

In order to have a clinical instruction base throughout the curriculum the first consideration is the identification of a hospital focus, preferably a university hospital whose wards can serve as a primary site of teaching.

The ambulatory and out-patient site as well as short-stay and intensive care units can be used for student instruction and resident training. The most sophisticated diagnostic and therapeutic tools might be employed but the most common problems are in primary care. The problems most graduates will encounter most frequently are not those found in the wards of tertiary hospitals.

The situation in Maastricht created an excellent possibility for a community-oriented approach since the city and its surroundings had only one hospital, one with growing ambulatory care. It was in the beginning difficult to transform this community hospital into an academic community centre.

To understand our problems I have to give an outline of the Dutch health care system. A general practitioner covers a population of 2500/3000 inhabitants. All doctors work in a semi-socialised system; the income threshold of $ 30.000 makes the difference between a social system patient and a private patient. The social system patients are treated in the scope of a low fee schedule, the private patient in a more elaborate one. The general practitioner and the specialists have a combined income from private and social system. The academic specialists have an academic appointment and a private income, which is usually lower than the income of specialists in regional hospitals. All social system patients have first to be seen by general practitioners before specialist consultation is allowed except in emergency cases. The local specialist staff in Maastricht was reluctant to transform to an academic position and despite the fact that the government promised even to pay a percentage of one year goodwill the specialists remained reluctant to join the faculty ranks. The Faculty became more and more hesitant to negotiate with the local hospital and its specialists and some members of the biomedical teaching staff even suggested to change all clinical instruction of medical students to other hospitals in the area.

After almost 10 year of slowly academisation we succeeded in changing this local community hospital into the first "academic" community hospital in the country with a growing shift of emphasis on instructions towards ambulatory and community care.

The educational setting of the Maastricht Academic Hospital can be considered excellent. The general hospital with about 800 beds has large outpatient departments with sufficient capacity of general patients seeking help after consulting their primary health care physicians. The Maastricht hospital covers also other towns and villages. The ambulatory setting and its diagnostic centre functions for general practitioners and provide an excellent opportunity for medical students to see the whole range of community and tertiary care patients.

The Dutch government in supporting our goals decided to build a new academic setting for our medical and educational purposes. The building of this academic hospital was started in 1985 and it is being built in an integrated way for both the Health Sciences and Medicine. We have to reduce the number of beds despite the full range of secundary and tertiary specialties. The hospital will be opened in 1991. The Faculty will be ready in June 1992. At that time, the old hospital will close. Medical students and young doctors in specialty training will encounter the total range of health problems faced in a totally integrated environment; the full range of cooperation between health services and medical education can so be reached.

Experiences

I like to briefly sketch what we take to be principal lessons of these cumulative experiences. Quite new educational experiences could be offered to our students. Schools of business studies have long offered their students cases and problems to which they can apply new and existing knowledge. Problem-based learning is now the new way of teaching in the Network schools. Several schools have adopted it as their primary teaching modality. Together with this change in education, faculty training has been developed and new assessment methods have been created and tested. So it is now possible to introduce and adopt problem-based learning without having to start from scratch. Hence, barriers to reforms are no longer due to a lack of imagination but more often to lack of skill in clearly diagnosing current problems in medical education.

The barriers to institutional change and skill in mounting an effective strategy for overcoming institutional inertia. Many questions arise. For instance: is it safe to use these methods to replace a traditional, lecture-based and teacher-centred curriculum by introducing-problem based learning and community-orientation? Evaluations suggest that problem-based learning works as well as traditional methods for cognitive learning and retention of knowledge. Students also seem to be happier during their studies. There is now also convincing evidence for the claim that students develop better problem-solving skills and that they become more effective lifetime learners. It is also evident that problem-based learning is seldom used as the exclusive teaching model. The students at such schools seem to like and even ask for lectures. Problem-based learning is not a complete alternative. However, the evaluation research findings are clear: problem-based learning produces more satisfied students who do as well or better as students from conventional schools on standardised cognitive tests.

The Community-Oientation

The community-oriented aspect of medical education is less fully developed and evaluated. The schools at Beer Sheva/Israel, Ismailia/Egypt, Gezira/Sudan and Cuba for example are still in the process of making this exciting approach a reality. It is clear that Beer Sheva has succeeded in interesting more of its graduates in primary care than other medical schools in Israel. Yet, they are now learning that because the rest of the medical establishment, (especially the residency training processes and the specialists boards) is traditional, their graduates face a demoralising experience upon leaving this medical school. Thus, for community-oriented medical education to succeed, it must also to have impact on the entire medical training process and on the boards. Similarly, in Israel, in The Netherlands, and elsewhere, the status of primary care is damaged by the scarcity of effectively trained teacher role models who have intellectual and scholarly status as well as experience as practitioners. Planners must act to alter this trend through effective faculty development. A career in primary care should become attractive and durable.

How to Change

It is apparent that it is easier to accomplish the innovative changes when starting a new school than when working in an old one. In new situations the dean can choose innovative faculty willing to experiment and does not have to cope with as many of the issues and tradition.

The Network has created an innovation in medical education and has overcome huge resistance of traditional education. Its members have broken down the barriers between learning and practice in various fields and adopted teaching methods based on teamwork in the field, providing for the health of population. These are essential conditions for introducing new health structures which will contribute to improving health care.

The Network now has over one hundred full and associate members in many different countries. The new medical schools have taken the opportunity to create a programme in which health problems are underlying education. The recent 'World Conference', held in Edinburgh in August 1988, has urged medical schools to make the training of physicians more relevant to the health needs of communities. In doing this, the World Federation of Medical Education responded to the call of the Network. With great acclaim the Network supports the Edinburgh, WHO and Tokyo Declarations, in which the principle of the Network schools to produce doctors who will promote the health of populations has been embraced. With these declarations the Network, with its organisational structure geared towards change in medical education, feels strengthened in the pursue of its goals.

Epilogue

It is an exciting time for medicine. The growth rate of knowledge, the increasing demand and diminished resources, and the innovations in medical education come together at a time of intense challenge and opportunity. Along with the technical changes we face computerisation of knowledge systems, and availability of new media for instructions. We can see an era of smaller faculties, more innovative and creative students, and improving educational results. Faculty today faces the choice of being part of the solution or part of the problem. It is not an easy choice, but it is one that must be made. The Network can be of help towards the goal of improved information and access to sources that help to solve the problems faced by medical educator or planner. The Network hopes that all of you will explore the ways in which the experiments described above can be of use. If they turn out to be useful, the Network will have succeeded in its goals.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 33 - S 36

A Governmental View of the Relationship Between the University and the Regional Health Care System

Geert van Etten
Ministry of Welfare, Community Health and Cultural Affairs
The Hague, The Netherlands

Abstract

The Maastricht Faculties of Medicine and Health Sciences have introduced an innovative approach to the education of health personnel, which has had its impact on medical education in The Netherlands as a whole. The Maastricht Faculty of Medicine and the other Dutch Medical Schools are encouraged by the Dutch Government to strengthen cooperation between education and health care systems. At the regional level, health care providers, health insurers, patients organisations and the university are identified as potential partners for cooperation. Moreover, the Government supports the integration of academic education and research in general practice.

Introduction

In presenting the governmental view of cooperation between the Maastricht Faculties of Medicine and Health Sciences and the regional health care system, I would like to discuss two issues: first, the educational orientation of the two faculties and, second, the use of the health services as a resource for education. While discussing these two issues I will focus on how they fit in with the national health policies.

The Educational Orientation: Its Impact

My first observation is that the Maastricht experiment has introduced an innovative approach to medical education, not only in this university, but also in The Netherlands as a whole. The aim of the experiment was to complement the traditional teaching of disease management with the acquisition of knowledge, skills and attitudes related to continuity of care, health promotion and disease prevention. The basic philosophy, therefore, was the reorientation of medical education towards the primary health care approach.

The experiment has been conducted in Maastricht since the mid-1970s. As the new

Requests for reprints should be sent to Geert M. van Etten, Ministry of Welfare, Health and Cultural Affairs, Staff Bureau for Policy Development, POB 5406, 2280 HK Rijswijk, The Netherlands.

approach was sometimes considered highly controversial, it aroused a great deal of discussion in the country, both in the universities and in the health care sector itself. In this respect, the new curriculum had a regional, as well as a national impact.

The Educational Orientation in Line with Health for All

Maastricht has set an example of how universities can play an important role in the Health For All Strategy (HFA) of the World Health Organisation.

The first steps in the formulation of a national HFA policy in The Netherlands were taken in April 1986, when the policy document Memorandum Health 2000 was submitted to Parliament.

In the same year a policy document on Health Research sat out research policy in support of the national HFA policy. The Memorandum Health 2000, though an innovation in health policy development in itself, was not specifically concerned with the education of health professionals. At the request of Parliament a follow-up paper, entitled Health Target Document, was presented by the Secretary of Health in April 1989. This draft document stresses the need for reforming and reorienting medical education.

The difference between the seventies and eighties is that the primary health care approach was originally the major orientation, whereas today it is considered as one of several orientations which sometimes compete with each other.

Regional Health Care system

The University in Maastricht was established in a period of decentralised planning of health services. The Southern part of the Province of Limburg was designated as an experimental region within the framework of the Health Services Act and received substantial financial support from the Government. However, the Government has since then proposed fundamental changes in the structure and financing of health care following a report of the Dekker committee. The main elements of the proposals are a restructuring of the insurance system and a shift from government-regulation to self- and market-regulation. This policy will put an end to regionalisation on a geographical and local government basis. The proposals favour functional regionalisation, with care providers and insurers being primarily responsible for creating a comprehensive network of health services geared to the needs of the population.

Linkage between Educational and Health Care Systems

It is generally agreed that academic institutions and health care systems are partners in health care development, but frequently these partners have yet to create an appropriate setting for productive cooperation. This concern about the lack of clear and effective mechanisms for close cooperation between the education and health sectors was also expressed at the Lisbon Ministerial Consultation for Medical Education in Europe in November 1988.

The participants in the Ministerial Consultation, proposed that urgent action was needed on a number of principles including one concerning the strengthening of cooperation between the education and health care systems at all levels: local, regional and national. In line with this new policy the government will also withdraw its financial support from the Medical Regional Centre (MRC) which has been responsible for promoting cooperation within the existing regional health care system. The MRC was established in the mid-1970s by the University in Maastricht as a means of communication between the University and the region. Since then the MRC has become an independent foundation, and the University has gradually decreased its involvement in the MRC.

Under the new government policy the main partners in this regional health care system are the health care providers, the health insurers, the patient organisations and the University; the government will play only a marginal role. However, the aims of regionalisation will be as before, that is to create a comprehensive network of health services relevant to the needs of its population. It should be emphasised that this development does not imply a complete withdrawal of government from all health affairs. For example, the promotion of public health will remain a major responsibility of government, and the planning of hospital beds and high technology, including that in academic hospitals will be regulated by an amended Hospital Planning Act.

Brief mention should also be made of the new model of cooperation which is emerging between the universities and general practitioners, referred to as the network model of cooperation. This is characterised by the integration of the education and research interests of the universities with the provision of primary health care. Moreover, it also creates a more equal balance between the teaching and health care staff. Proposals for this model were made by a committee of professors of general practice, representatives of the National Association of Doctors and of the National Association of General Practitioners, as well as representatives of the Ministry of Health. This programme is supported by the Government.

The Future

We hope that the University will continue to develop new approaches in medical education and to continue to attract world-wide attention as it has during this conference.

With regard to the linkage between the University and the regional health care system there is room for new initiatives to be taken by both the University and the various sectors of the regional health care system to improve their cooperation along the lines of the network model of cooperation.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 37 - S 51

Interactions of Academic Institutions and Health Care Systems as Partners in Health Development

John H. Bryant and Noordin M. Thobani
Aga Khan University
Karachi, Pakistan

Abstract

A partnership between academic institutions, health care systems and communities is essential, in order to attain "Health for All". The partners, their positions and roles in this partnership are further defined. The implementation of the primary health care (PHC) approach in the development of health services with academic centres and primary health care systems as partners is considered pivotal in the pursuit of equity. Consequently, health manpower development in terms of education and training should be geared to function in, or in relation with PHC. The paper concludes with a series of warnings of pitfalls that could be met on the way to establishing the desired partnership.

This is a curious partnership—academic centres and health care systems. There are such fundamental differences in their purposes, personnel, styles, locations of activity, pace of work ... that the first glance suggests they are worlds apart. Perhaps that is why academic institutions and ministries of health have been so distant from one another, at least until now. What is it then that might bring them together? Is there some fragment of common purpose? We would say yes, but it is more than a fragment, more like a common foundation that may not have been fully appreciated by either partner. WQe would call it a commitment to equity in health, by which we mean universal coverage of a community or a population with health services, with care according to need.

Some would have tied that common commitment to patient care and well being which is undeniably at the heart of the work and purpose of academic health centres. But the historical broadening of the purview of academic health centres, to include concern for the well being of the general public, as well as of individuals, and the ex-

Requests for reprints should be sent to John Bryant, The Aga Khan University, Faculty of Health Sciences Medical College, Stadium Road, POB 3500, Karachi 74800, Pakistan.

tension of concern to other sectors whose impact on health is indirect but nonetheless substantial, took place precisely because of the evolving recognition that societal responsibilities had to be broader than patient care alone.

Why the Specification of Equity?

The easiest reference point for equity is the Declaration of Alma Ata, and WHO's Goal of Health for All (WHO, 1978; WHO, 1988). But concerns for equity preceded Alma Ata in virtually all expressions of concern for social justice, political, philosophical, and in the writings of the great religions. In passing, we can acknowledge that concerns for social justice and equity have not always been with the medical profession. Those values were not included in the Oath of Hippocrates, but have emerged as central to the obligations of the health sector. Pellegrino refers to our Post-Hippocratic era in which the concern for social justice is a central theme. Another Post-Hippocratic theme is autonomy in decision making, whether of individuals or communities, to which we will return later (Pellegrino, 1989).

In accepting equity in health as a fundamental principle for guiding the development of health services, we must recognize that the demands it places on us, socially, technologically, politically, ethically, are endless. Dan Callahan (1987) uses the expression "endless frontier" in referring to the problems that lie ahead in the health care of the elderly. Let me offer an indication of that endlessness. Equity is to be pursued in the face of scarcity, a contradiction with which we must constantly live. This is so in both poor and affluent countries, as scarcity is inevitably relative. Equity calls for a sharing of political power, so that the powerless will not remain voiceless. Equity requires a social coherence within and among communities that will support the pursuit of universal coverage and care according to need, even in the face of severe societal disruptions - look at malnutrition in poor countries and AIDS in both poor and affluent societies.

Equity calls on technology to provide services that achieve equity, demonstrably achieve universal coverage and care according to need within affordable costs.

A Thesis - The Interaction of Academic Centres and Health Services as an Essential Partnership

Let us put forward the following thesis about the interactions of academic centres and health services. *Academic centres are unfulfilled without direct and effective access to health services, including the range of health services that contain the realities the society faces. They risk remaining remote from the critical arena for* *which their graduates are, or should be prepared, and toward which their research should be directed if their educational programmes are to have full relevance. Health services, without partnership with academic centres, lack direct influence on the educational preparation of health personnel on whom their services will depend for effectiveness. They also lack linkages with research capacities which are needed to examine the problems and shortfalls that inevitably attend the development of health services.*

Such a partnership is likely to be tender in its relationship, given the differences in perspective, values, style and mission. Which is to say, the partnership will not come easily. A close and meaningful partnership requires that each understand the other, go onto the other's ground, share the problems, perspectives and even the vulnerabilities of the other.

We will try to lay out some of the territory in which such partnerships might work. We will use the Aga Kahn University (AKU) to illustrate some of the issues. Not that AKU's way is the way it should be done, but rather, because AKU has probed into these areas far enough to have some lessons to offer, some gains, some losses, some outright failures, and a great deal of humility.

Having identified equity as the central issue around which academic centres and health services should interact, let us proceed to deal with a series of issues that form the reality of their interactions. There are three major sets of issues and then a series of warnings.

A Closer Look at the Partners. Who are they, in whose interests do they interact, and what do they offer one another? The Pursuit of Equity through PHC, from models to large systems. Education and training through, and for health services development, leadership for tomorrow. Elephant traps in the road to partnerships between academic centres and health services.

Who are the Partners?

To identify the relationships in terms of just two partners, academic centres and health services, would be too narrow. There are three or four partners, depending on how they are clustered, and who can be seen as interactive, each with the others. Health Services should be broadened to include both health policy makers and implementers of health policy. Policy makers tend to be centrally located, implementers are mainly peripheral. Implementers are specified so as to ensure a local view of the problems and possibilities, to focus attention on the support that local health workers require but often do not receive, and the fact that they are often the partners with whom the university must deal. Community must be included for obvious reasons, and it serves as a critical test of the sensitivity of both academia and health services to social need and also to the place of social autonomy in health development.

Consider some of the interactions and interdependencies of these partners.
Policy makers need guidance on research and on human resource development, to have important questions identified for them, and in building policies on research-based findings. Health services implementers need prototypes, methods and the freshness that comes with alternative approaches to complex problems, to assist in exploring limitations and shortfalls in the services they are trying to implement. Academic centres need the anchor of real world health services to ensure the relevance of the research and education they will undertake. Communities need empowerment to enable their voices to be heard, and the other partners need guidance from communities in order to go beyond technology of health services to community-ensured sustainability of health services.

Pursuing Equity through Health Services Development

A PHC system is based on five principles drawn from Alma Ata and Health for All (WHO, 1978): universal coverage, with care according to need (or risk); effective, affordable, accessible, culturally acceptable; promotive, preventive, curative, rehabilitative; community participation so as to promote self-reliance; and interaction with other sectors of development.
These principles are more than formal statements. At the Aga Khan University we take them very seriously and we believing that each is essential to PHC development in the interest of equity. AKU and fellow institutions have developed a series of PHC prototypes in cooperation with government in urban, rural and mountainous areas that largely incorporate these principles.

There are variations among the prototypes, and this description will be of the urban PHC systems. Key components are set out below.

The initial step in PHC system development is dialogue with the community and engaging their interest, knowledge, and participatory support. It is imperative that they be involved in actual decisions about what will be done and not simply expected to cooperate in implementing decisions made by health care providers, discussed further below. A population is defined through dialogue with the Community that becomes the population to be served, usually 8,000 to 10,000 people, a population with social cohesion where that is possible. Universal coverage of a population with PHC is made possible by community health workers (CHW's), women recruited from the community, trained in the community and assigned to about 150 households, each to be visited on a monthly basis. They are able to identify persons who are ill or at risk, e.g. children who are unimmunised or malnourished, women at risk from pregnancy, adults who are hypertensive. They provide care where appropriate and refer others to the nearby health centre. Community Health Nursers (CHN's) and Community Health Doctors (CHD's) supervise the CHW's and oversee this small PHC system. A Management Information System (MIS) is built around base line house-to-house surveys carried out by our students, together with monthly reporting by the CHW's. The information is received from the CHW's and aggregated by the CHN's, shared with the CHD's, and forwarded to the MIS team that overlooks this flow of data. Thus, on a monthly or quarterly basis, there is a reporting of pregnancies, births, deaths, prevalence of malnutrition (by grade and weight change), immunisation status, selected morbidities and costs. This MIS supports management decisions at field level and centrally. Costs are monitored, along with community contributions. In the urban settings, costs at field level for preventive and curative PHC services run at about $ 2.50 per person per year. Using cost, process and outcome data, it is possible to generate cost-effectiveness calculations. In dialogue with the community, non-health factors, such as lack of potable water, lack of sewerage, illiteracy, or severe unemployment may emerge as high priority concerns. The PHC teams must then assess their capacity for assisting the community in pursuing these problems with others sectors of development. The above prototypes are urban, and AKU is managing them with support from grants. Linkages with government, relating to those services, are described below. Comparable rural prototypes are developed directly within governmental service, and involve the full range of health services at the district level.

Let us now look at some of the strengths and weaknesses of such PHC systems together with some of the dilemmas that attend their applications under conditions of severe underdevelopment. Each of these has implications for the partnership between the academic centre, policy makers and health service implementers, and the community.

An important strength is that the PHC system is documentable. There is universal coverage of a defined population, and an MIS that documents accomplishments and shortfalls. Thus, the system is there to be looked at, with communities to talk to, data to examine, and for government or others to determine its usefulness and practicality. It is a real world and not an academic concept. In this approach a PHC infrastructure can incorporate a variety of PHC programmes and thus serves as the basis for a comprehensive approach to PHC, rather than using selected PHC programmes.

The relationship with the community is at the heart of the PHC system. In the past, AKU made the key decisions about which community would be chosen and what would be done there; communities were cooperative and participatory, but we were in charge. Now, the communities make those decisions and we serve as a resource to them. The differences in implications for us and for the community are profound. Given the fact that these communities are under continuous epidemiological surveillance, why do substantial numbers of small children still die? Perhaps the answer is obvious once stated: when children are living in poverty, with uneducated mothers and unemployed fathers, and in contaminated environments where malnutrition and diarrhoea are rampant, watching them does not save them. At best, the surveillance system should call attention to failures of intervention and guide further studies and efforts of intervention.

It is essential that Primary Health Care reaches the community, but PHC is not enough. There will be occasions when a patient's problems exceed the capacity of the local PHC system. Referral to the next level of referral, Secondary Health Care (SHC) will be necessary. There the staffing will be by general specialists, e.g. paediatricians, obstetricians, surgeons, internists. This is particularly important for the complications of pregnancy and child birth. Referral to the tertiary care level (THC) may not be necessary quite so frequently if the SHC level is functioning effectively. At AKU urban field sites, about 5% of PHC visits require care at the SHC level, and about 1% at the THC level.

AKU is in close dialogue with government about health services development and assisting in the implementation of a new National Health Policy. The Karachi Municipal Corporation, which has responsibility for providing health services for the three million people of Karachi who live in abject poverty, has asked AKU to assist in the development of improved services, and the World Bank has indicated a willingness to fund such services. A key issue is that for AKU to simply offer up its model of PHC services is not enough. The municipal government does not have the managerial capacity to absorb it. If the University is to be truly useful, it must move into close partnership with government and help build the capacity of government to absorb and implement such lessons on a large scale.

Another aspect of our interaction with government comes in the form of joining with senior policy makers in developing a Research Agenda for the new National Health Policy. The key steps to be taken under the Research Agenda are: strengthening mechanisms for research policy formulation; strengthening linkages between policy makers and researchers; building capacities for research in Pakistan; and setting priorities for research. A National Workshop on Policy-Linked Health Research is planned for 1990 that will bring together the various interested parties to implement the Research Agenda, including a Plan of Action for the 90's.

Socio-cultural factors dominate health and development in poverty settings. Most deaths are traceable to behaviour. Examples are a mother who could not provide a safe household environment for her child; a father who could not provide a stable income for the family; a mother who tried but could not unravel the complexities of getting health care from a largely inadequate health system, governmental or private. Those who are concerned with the design and management of health care systems must move into the community-based interface between people and services. Lives are lost or saved on the basis of small choices of mothers, or CHW's, or local drug shops. In developing PHC systems, it is seen over and over again that even the best of health policies may not eventuate in effective PHC programmes, whether these are the policies of international organisations, government, universities or local non-governmental organisations. The best of plans, budgets, and programmes can run aground on the obstacles of poverty, stagnated bureaucracies, petty corruption, cultural taboos, and despondent and underpaid health personnel. For those who would make policy or design health systems, or teach about them, it is essential to leave the cloister and go to the field, not to document failure but to study and plan, in order to help local people to overcome such obstacles and to help give further shape to health policies.

This discussion has focused on local health problems that are largely manageable at the PHC level. There is another dimension of health problems that must be considered at an entirely different level. In reflecting on the ten years since Alma Ata, WHO had made the point that while there have been many advances associated with Health for All, there are also serious unresolved problems. Such problems include persisting high infant and maternal mortality rates, and also new problems that raise entirely new kinds of questions: AIDS, the debt crisis of Third World countries, the dilemma of continued high rates of population growth coupled with ecological deterioration, and the so-called demographic trap. Serious efforts to pursue Health for All must also address these problems that are so resistant to solution (WHO, 1988).

Education and Training through and for PHC

A major objective of academic centres must be to relate their education and training programmes to the health needs of their societies, in terms of both the nature of the health problems and the problems associated with developing health services. The Declaration of Alma Ata specifies that the key to achieving Health for All will be PHC. While limitations of the PHC approach must be recognized, it is reasonable to use PHC as one of the central approaches to educating health personnel to meet local and national needs.

Many approaches to community based education can be taken. At AKU, we base our educational programmes in community settings where we have developed operational PHC systems. Students spend about 20% of their curriculum time in each of the five year in Community Health Sciences, much of it at field sites.
The following are key issues and steps. *The conceptual basis for the medical curriculum is the Community Health Planning Cycle. This approach is analogous to the problem solving cycle, the management cycle, or the scientific method, all of which involve identifying, characterizing and solving problems.*

Each entering class of students is assigned a new field site with which they are associated for five years, usually a community living in poverty in urban Karachi or a nearby rural area. Students come to know how to interact with the community, to join with the community in defining community concerns and needs, carry out a house-to-house survey, analyse the data, and share survey results with the community.

Table I summarizes data from a number of field sites, showing how socioeconomic indicators interact with health status indicators in reflecting stages of development. From the Table, it will be seen that the "Low-Middle Income" community has very different values for virtually all indictors than do the poor populations living in urban, rural and mountainous areas. Subsequent steps involve joint planning of health services and other interventions, including planning for the development of a PHC system, its management and evaluation. An important component is a PHC

Clerkship held in the final year as a joint effort of the departments of pediatrics, obstetrics and gynaecology and community health sciences.

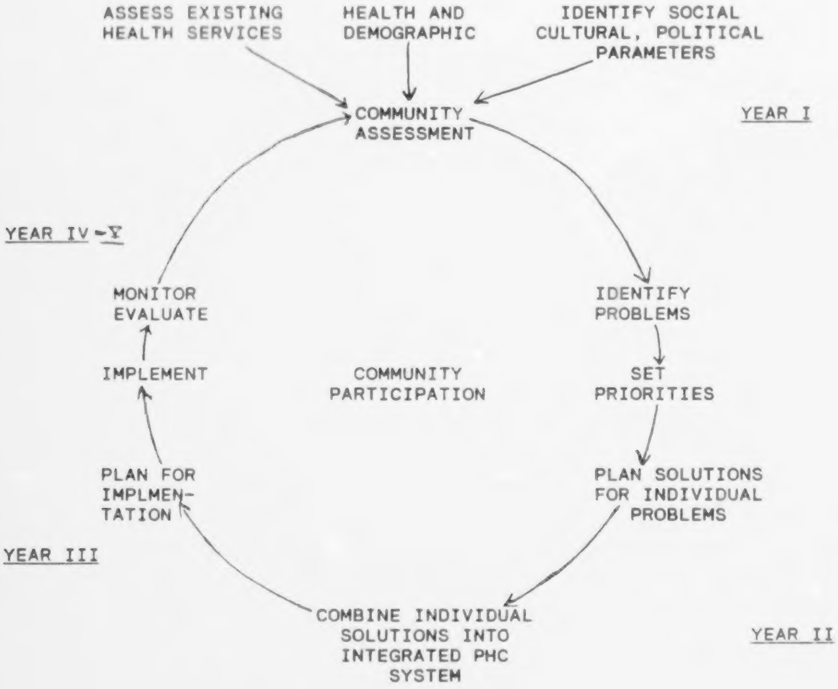
ASSESS EXISTING HEALTH SERVICES
HEALTH AND DEMOGRAPHIC
IDENTIFY SOCIAL CULTURAL, POLITICAL PARAMETERS
COMMUNITY ASSESSMENT
YEAR I
IDENTIFY PROBLEMS
SET PRIORITIES
PLAN SOLUTIONS FOR INDIVIDUAL PROBLEMS
YEAR II
COMBINE INDIVIDUAL SOLUTIONS INTO INTEGRATED PHC SYSTEM
YEAR III
PLAN FOR IMPLMENTATION
IMPLEMENT
MONITOR EVALUATE
YEAR IV - V
COMMUNITY PARTICIPATION

Figure 1. The conceptual basis of the AKU medical curriculum - the community health planning cycle

Table I. Survey findings at selected field sites in Pakistan

	Urban		**Provincial**		**Mountains**
	Urban Poor (1)	**Low-mid Income (2)**	**Urban (3)**	**Rural**	**Rural (4)**
Socioeconomic Indicators					
Median per capita income $/Yr	125	340	128	70	61
Average number persons/room	3.7	2.2	3.5	5.0	4.7
% Houses:modern toilet	75	100	35	1.5	7
Demographic Indicators					
% Pop below 5 yrs	20	5	18	17	18
Crude birth rate	42	23	39	45	44
Infant mortality rate	117 (90-208)	43	117	173	158
Under 5 deaths as % total deaths	53	20	49	57	58
Contraceptive Prev.Rate	10	56	5	2	NA
Health Services Indicators					
Health facilities used					
Government hospital dispensary	13	8	23	39	46
Private hospital/ clinic	62	69	70	44	33
Median expenditure per household last illness $	3.9	3.2	NA	NA	4.5
% last delivery by traditional birth attendant	56	1.5	90	98	83

A critical issue has to do with the role of the community in deciding about components, targets and programmes. The curriculum is modified according to the role of the community health doctor vis-à-vis the community as decision makers. That is to say, if the programme is to be led by health professionals, the students require one specific approach; however, if the community is to take the lead, the students need to be prepared for a different kind of role, where they are supportive of the community in its efforts to bring community and other resources to bear on critical problems.

Nursing students as well as medical students are involved at the PHC field sites, and each has a field based role model - the Community Health Nurse or the Community Health Doctor. One of the challenges is to bring the two groups together under conditions of mutual help and respect, preferably as members of the same PHC team. Thus, the AKU curriculum is not only community-based but it is also health services centred, and learning experiences are focused on health system development, as well as on dealing with community health problems. The field locations of student involvement cover the full range of services and facilities that are parts of health services.

Research questions are as much a part of the curriculum as are service programmes. Functional mistakes, system failures and seemingly intractable health problems are such a common part of every day work that it is both natural and essential that students be involved in identifying and pursuing health services research questions. Students have assigned blocks of time for research projects. Student projects become the basis for plans for health care interventions or for advice to policy makers, or both. Thus, students become full partners in health services research, including policy linked research.

Viewing this range of activities in health services settings makes it imperative to see that the university and its teaching hospital are much too limited a concept, and that the university and its teaching health system are far more appropriate as the paradigm for partnership between academic centres and health services. Indeed, given the insatiable appetite for resources and personnel of the university hospital, it is fair to say that once established, the university hospital can be a formidable obstacle to establishing a teaching health system. The latter can be planned so as to incorporate the full range of community and health services problems and opportunities, including the possibilities for partnership with health services policy makers and implementers.

A final point about the educational preparation of health personnel has to do with their career paths. Too often, the students emerge with the desired competences and willingness, but placement opportunities are lacking. The academic centre must ask what are its further obligations? Should it move beyond its traditional role of human resource production to helping to shape the career pathways available to its graduates? This question is closely linked to the earlier point about academic centres going beyond prototypes to working with government in implementation. A dual approach, of promoting both health system development and career path development would help to answer these complex problems, but is the academic centre ready and able to do so? AKU recognizes the importance of this issue and is prepared to move forward on the problem.

Elephant Traps on the Road to Partnerships

A way of summarizing the major issues involved in the effort to forge partnerships between academic centres and health services is to call attention to the warning signs on the road to such partnerships.

The Trap of Communities Participating without Empowerment

Giving power of decision making about health affairs to communities is difficult for health professionals, both technically and socially. But the possibilities of engaging communities in such activities as health-related behavioural change, environmental improvements and sharing in the financing of health services without empowering them to make critical decisions in their own lives and community affairs becomes a serious contradiction. Even the matter of accountability with respect to quality and availability of health services should be directly linked to assessment by the community. Until the matter of community empowerment is grasped by the academic centre, the partnership cannot have its full meaning.

The Trap of Primary Health Care without Referral Support

PHC is not enough. PHC systems are not sustainable if isolated from secondary care support. There is a bi-directional flow to and from the secondary care level. A vivid example is the management of complications of pregnancy and child birth. PHC without capacity for operative intervention will lose mothers unnecessarily. This point reinforces the importance of thinking in terms of health system development and not simply of PHC development.

Needless to say, considering only involvement in communities as the aim of community-oriented health sciences education, either in PHC or health systems more generally, would represent a very limited involvement in the problems that society faces with respect to the health of communities.

The Trap of Academic Modelling without Implementation

Prototypes are not enough. Where the academic centre has the capacity for developing health services prototypes, there will remain the question of what is to happen to the model? Under conditions of severe underdevelopment, the risk is that nothing will happen. The government may not have the managerial and/or financial capacity to absorb the model. The academic centre is then faced with a dilemma: does it move onto unfamiliar ground of helping government to develop the managerial, clinical and educational capacities to absorb the model or the lessons derived from it? Here the nature of the ''partnership'' becomes a critical issue.

The Trap of the Teaching Hospital without Associated Health Services

The traditional complex of the academic health centre and its carefully built relationship with a teaching hospital can itself be an obstacle to extending educational, research and service interests to communities and related health services. Ideally, all departments should be involved in such field activities, certainly all clinical departments. But the demands of the teaching hospital for personnel and resources, together with the technological prestige associated with tertiary services, may make that transition very difficult. The desirable institutional formulation would be that of an academic centre and its teaching communities and health services. Whether the major hospital-based activity would be in a "university" hospital or in other facilities, for example, government regional hospitals for example, are matters for local decisions.

The Trap of Producing Graduates without Career Paths

AKU has not resolved the question of what its graduates will do. The choices open to the graduates offer far less in terms of professionally challenging work than they have been prepared for. Should the university move onto the ground of helping government to develop health services that would attract its graduates on the basis of challenging work and career opportunities? Our university believes that it must try to move in this direction and sees its work in health services development as an avenue for doing so.

The Trap of Research without Links to Policies

Linking health research with national health policies is clearly easier said than done. But to have researchers pursuing questions unrelated to national policies, and policy makers unguided by relevant research is obviously self-defeating. The key may be to seek mechanisms for linking the two, so that there is at least a clear understanding of what each might offer the other. AKU is assisting government in formulating a document entitled "A research agenda for the national health policy" and will assist in organising a National Workshop on Policy-linked Health Research.

The Trap of Focusing on Health without other Sectors

A tight focus on health may lead us to look mainly at health problems as priorities, or at health related outcomes when evaluating impacts of health services, but to leave out other sectors as determinants of health e.g., lack of education, contaminated environment, large and poorly spaced families. This is to be blind to key causative factors. Addressing such determinants may be difficult for those who function within the health sector, but there must be a search for new partners and new mechanisms for addressing these problems that are so central to health development.

The Trap of Academic Centres remaining in the Cloister

The objectives of partnership with health services include interactions with both policy makers and peripheral implementers and the important relationship with the community, preferably with the communities making management decisions. In this context it is simply not possible for the academic centre to have meaningful insights into the problems and possibilities of health services development without a physical presence where the events are underway. It is preferable for the academic centre to be operationally involved in these affairs and not only to be viewing from afar. Industrial country academic centres, which would be involved in these partnerships are in cloisters that are even more remote and insulated by international distances. While they have special academic resources of great importance to offer, they have the additional burden of being geographically removed. They recognise that their greatest usefulness will be in joining in the partnership with local institutions and services and studying local problems on site, rather than offering academic advise from afar.

Concluding Reflections

The pursuit of equity is difficult but imperative. There may be no better coalition of interests in that pursuit than academic centres and health services: if their commitments are firmly rooted in recognition of community needs; if their partnerships are joined in a spirit of constructive dependence on one another and if both are ready to grapple with day to day problems as they arise in the field.

The death of this partnership will come when the university insists that its research and educational skills can only be exercised within the cloister; when the health services insist that research is irrelevant to the development of health services; and when both avoid joint planning and action for health manpower development.

Such determined isolationism need not be the case, if all parties are truly committed to the idea and ideal of equity, even in the face of scarcity.

A review of the elephant traps indicates that to avoid each of the traps requires the university to venture onto new ground and that none of the steps to avoid a trap adds to academic prestige, indeed they may diminish it. But, this is in the nature of pioneers, to go forth with risk.

References

Pellegrino, E.D. (1989). Toward an expanded medical ethics: the Hippocratic ethic revisited. In: Cross *cultural perspectives in medical ethics: readings by R.M. Veatch*. Boston, MA: Jones and Bartlett Publishers.

World Health Organisation. (1978). *Alma Ata, 1978: primary health care*. Geneva, Switzerland: World Health Organisation.

World Health Organisation. (1988). *From Alma Ata to the Year 2000 - reflections at the midpoint*. Geneva, Switzerland: World Health Organisation.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 53 - S 62

Strategies for Collaboration between Medical Schools and Health Care Systems in Nigeria: The Bayero University Kano Experience

Olanipekun K. Alausa
Ogun State University
Ago-Iwoye, Nigeria

Mahmud A. Ennin
Bayero University
Kano, Nigeria

Abstract

Since the beginning of the 20th century and until 1975, orthodox health care delivery services in Nigeria were mainly hospital-based, curative-oriented, and concentrated in few urban areas where the civil administrators and army personnel lived. The remote rural areas, habitated by the majority of the indigenes, were neglected and relied on traditional healers and local herbalists. The philosophy of the first 30 years (1948 - 1977) of medical education in Nigeria was dominated by the teaching hospital model of Europe and America.

Since then there has been an increasing awareness of the importance of good health services for national development. The objectives of the primary health care philosophy were adopted by the Nigerian Government as part of the implementation strategies for the 3rd National Development Plan (1975 - 1980). It became obvious that the coverage of health services had to be drastically increased to provide for the population at large, especially those residing in rural areas. Therefore, innovative health system strategies, which include training of relevant manpower and use of appropriate technology to solve the major health problems, had to be introduced. An important component of these strategies is collaboration between medical education institutions and the agencies responsible for the health delivery system. In Kano State, Nigeria, the successful collaboration between Bayero University Faculty of Medicine and the health sector agencies has been achieved through the following strategies: a) positive Government policies which support innovative

Requests for reprints should be sent to Olanipekun K. Alausa, College of Health Sciences, Faculty of Clinical Sciences, Ogun State University Teaching Hospital, PMB 2001, Sagamu, Nigeria.

medical education; b) the community-oriented philosophy of the Faculty of Medicine, implemented through its community-based medical education and services programme (CBMES); c) the linkage established between the Medical School and other health professional bodies; d) the involvement of the community in the implementation of the medical curriculum of the University, and e) the improvement in the use of health facilities and services in the communities which are collaborating with the Bayero University CBMES programme.

Introduction

Evolution of Health Services in Nigeria

Orthodox health services in Nigeria originated from the British Army Medical Services towards the end of the 19th century. With the integration of the Army and the Colonial Government, modern health services were extended to local civil servants and their dependents. Later on, the local population living close to Government stations was included. In addition, various religious bodies and private agencies established hospitals, dispensaries and maternity centres in different parts of the country. This situation persisted until Independence in 1960 and beyond.

For more than eight decades and until 1975, the health care system in Nigeria was largely dominated by hospital-based, curative-oriented medical services in a few urban areas where the colonial and civil administrators and army personnel lived. Remote rural areas, habitated by the majority of the indigenes, were neglected and left without any form of health service. By 1975, less than 35% of the total population of about 80 million Nigerians were served by modern health services; the rural areas were mainly served by local traditional medical practitioners and herbalists. The involvement of the community was minimal, and the general population were passive receivers of the health services provided by Government agencies and private organisations.

In 1975, when the Third Nigerian Development Plan (1975 - 1980) was formulated, an attempt was made to draw up a comprehensive Health Policy for the country. The issues addressed included appropriate manpower development and the provision of comprehensive health care services, with coverage to be increased from 35% to 60% in 1980, 80% in 1985, and 100% by 1990. Emphasis was placed on preventive and promotive aspects of health care. In 1986, the Nigerian Government formally adopted a National Health Policy based on Primary Health Care (PHC) strategy, as part of the Fifth National Development Plan (1986 - 1990).

At present, there are three defined levels of access to the health care service system which are jointly undertaken by Government health institutions/agencies and private health establishments. 1)tThe primary health care services are the first level of access. They are provided by the 445 local council authorities in the country, supplemented by some private maternity centres and general medical clinics in both rural and urban areas; 2) the second level of access consists of general hospitals established by the 21 state Governments in the various local Government headquarters and other private individuals or organisations mainly located in urban areas, and 3) the third level is made up of the 18 university teaching and specialist hospitals which are attached to the medical schools. These tertiary institutions were established by the Federal Government, usually in large urban cities. Only Ogun State has its own University Teaching Hospital, located in Sagamu (a local council headquarter). Health services in Nigeria are based on a fee-for-service policy.

It is not possible to make an accurate assessment of the health status of Nigerians, because there is no continuous system of collecting basic health statistics on births, deaths, the occurrence of major diseases and other health indicators on a country-wide basis. The current limited health statistics from recent surveys in Nigeria still indicate a generally poor state of health: crude birth rate 50 per 1000 population; crude death rate 16 per 1000 population; infant mortality rate 85 per 1000 live births (it may be as high as 100 to 160 in some remote rural areas); life expectancy at birth is just 52 years.

Most of the illnesses and deaths which occur among Nigerians are due to conditions which are easily preventable or which can be treated with simple remedies. Communicable diseases, especially those which are associated with inadequate environmental sanitation and poor personal hygiene, predominate and are often compounded by malnutrition which is largely due to ignorance and poverty among the low socio-economic stratum of the population. Other common causes of mortality include pregnancy related conditions, sickle cell disease and road traffic accidents.

History of Medical Education in Nigeria

For many years, doctors practising in Nigeria were not only trained in Britain but were indeed mostly British citizens. In 1932 - 1952 basic medical education started in Nigeria when the Yaba Medical School provided a 7 year course for candidates with the Senior Cambridge School Certificate and turned out Assistant Medical Officers recognised only in Nigeria. Many of these graduates were not satisfied with this situation. They found their way to Britain, sat and passed the Conjoint

Examinations of the Royal College of Surgeons and Royal College of Physicians, a diploma recognised in the United Kingdom itself.
Many went on to train further in various specialties of medicine. The Yaba Medical School which produced a total of 61 "doctors", was phased out from 1947 to 1952 in favour of the Faculty of Medicine of the University College Ibadan, which began training medical doctors in Nigeria in 1948 under a special relationship with the University of London. Many of the students completed preclinical training only in Ibadan and went on to various Teaching Hospitals of the University of London to complete their clinical training. Many of these also stayed on in the United Kingdom and other countries of Europe and America to undergo further post-graduate training (Bankole, 1988).

In 1953, the Northern Nigerian Government established the Kano Medical School for the training of Assistant Medical Officers (AMO) who were only recognised in the northern part of the country. A total of 20 AMO's were produced, before the Kano Medical School was phased out in 1959. Most of this cadre of "doctors" joined the Nigerian Army after independence in 1960, some proceeded to the United Kingdom to undergo postgraduate training in public health, and the rest were employed by the Northern Nigerian Government.
The University College Hospital, Ibadan, opened its doors to clinical students in 1957. From then on, the need for teachers in the various disciplines of medicine became imperative, and the hospital pursued an aggressive staff development programme. Thus, it is not surprising that the philosophy of medical education in the first 30 years (1948 - 1977) was dominated by the teaching hospital model of western countries which is technology dependence and based in urban centres.

Strategies for Collaboration

During the implementation of the Third National Development Plan (1975 - 1980) and the National Health Policy (1986) it became obvious that there was a need for an innovative health strategy. This should include the training of relevant manpower and the use of appropriate technology in order to improve the coverage of health services and to deal with the major diseases in the country. In addition, health institutions were expected to search for new strategies of health care delivery that would identify the health needs of the community and be more readily accessible at affordable cost. It, therefore, became necessary for medical educators to interact closely with the institutions and agencies that were responsible for health care services, in order to determine appropriate goals and objectives of medical education in Nigeria.

Government Attitude to Innovative Medical Education

In 1977 the Academic Planning Group and the Working Party on Medical Education of the National University Commission (NUC) recommended that new medical schools be "oriented to the environment and produce doctors with a great sense of service and a strong inclination to broad community health and preventive medicine". In addition, it was recommended that all the medical schools should include rural practice postings in their curricula. Thus medical students would be exposed to "real life" situations during their training. These outside postings should be arranged under Faculty/College staff supervision and should form part of the final evaluation of the students for certification. Details of rural postings were left to individual institutions to decide.

In 1989 the Government, in pursuance of its National Health Policy based on PHC, co-sponsored with the African Regional Office of the World Health Organisation (WHO) and the World Federation for Medical Education, the African Ministerial Consultation on Medical Education in Abuja, the new capital of Nigeria. The consultation was a logical follow-up of the World Conference on Medical Education which took place in Edinburgh in August, 1988. The Abuja meeting was unique in bringing together, for the first time in the African continent, Ministers responsible for Health and Education, accompanied by senior Government officials and heads of medical education and health institutions. The central objective of the meeting was to rethink the purpose and content of medical education in Africa in consonance with the goals of PHC. The delegates resolved to bring about in each member country, the necessary actions to reorientate those involved in the training of doctors.

In backing the Government's initiatives, the National Universities Commission has recently directed all medical schools in Nigeria to allocate at least 25% of their medical curriculum to activities in primary health care in settings outside the medical school and teaching hospital.

The Bayero University Community Based Medical Education and Services Programme (CBMES)

Bayero University Kano (B.U.K.) is situated in the Northern part of Nigeria. The Faculty of Medicine is the newest of the thirteen Federal Government medical schools in Nigeria. The first undergraduate students were admitted during the 1986/87 academic year, the year in which the National Health Policy based on PHC was adopted. The medical school adopted a community-oriented and community-based educational philosophy from its inception. The Faculty established the Community-

Based Medical Education and Service programme (CBMES), in order to implement its philosophy (Alausa, 1988).
The 32 weeks spent by students outside the medical school and teaching hospital are divided into six clerkships in various communities in Kano State. These practice sites are selected on ten criteria (Alausa, 1988). The main prerequisites are that the sites must have health and social facilities that will be suitable for the attainment of specific educational objectives.

The CBMES allows for the development of an effective matrix between the community health services of the State Ministry of Health, the local council health agencies and the teaching hospital through a well coordinated network of educational activities and medical services. The programme ensures the improvement of the health of the community through expanded health care coverage by integrating teaching hospital tertiary care and state hospital secondary care with the local council primary care.
This programme, therefore, enables the teaching hospital staff and their students to play a more active part in primary health care delivery services. Thus, medical students, under the supervision of Faculty staff, will be able to examine prevailing health problems in the community (problem-based learning) and take the initiative by providing solutions (student-centred learning). The programme brings together a group of professionals who share being responsible for community health needs and who are determined to contribute towards the achievement of the goal of health for all the people in their areas.

The programme also benefits the community. Most communities are very eager to be selected as posting sites because of the benefits that will accrue to their areas, including the development of health and social infrastructure, the staffing of health facilities, and better planning, organisation and use of health services.

To ensure the successful implementation of CBMES, the community participation approach has been adopted by the medical school. A number of organisations and recognised community social groups, within and outside the University, are involved in the development, implementation and evaluation of the programme at the various posting sites. The organisations and individuals who collaborate in CBMES include: a) all departments in the Faculty of Medicine; b) relevant departments in other Faculties, such as Sociology, Mass Communication, Geography, Law, Library; c) University Central Administration; d) University Teaching Hospital, Kano (Federal Ministry of Health); e) Kano State Ministry of Health; f) Health Centres/

District Hospitals (located in the practice areas); g) Kano State Ministry of Local Government; h) local Council Health Department (located in the practice areas); i) Traditional Leaders, and j) recognised Community Leaders.

There is a CBMES Academic Committee (APC), consisting of representatives of the Faculty of Medicine (staff and student members), the University Central Administration, Kano State Ministry of Health, and the Ministry of Local Government. The APC is responsible for the formulation of the academic contents of the programme in line with Faculty philosophy and objectives.

There is also a Community Health Committee (CHC) for each practice area consisting of representatives of the Faculty of Medicine, the Local Council Health Department, traditional leaders, community leaders and students. The CHC is responsible for the implementation and evaluation of the programme.

The CHC has the following specific functions:

1) To organise a cross-section of the community (e.g. traditional leaders, influential groups, teachers, health workers, social clubs into a cohesive group for the purpose of: a) health and social development; b) determining health problems and disease patterns in the community; c) identifying local factors affecting the health care delivery system; d) determining the priority health needs of the community, and e) finding the appropriate solutions to health problems based on community action.

2) To promote the health of the community by a) stimulating interest in community health and their health-related programme based on the principles of primary health care; b) educating the community in matters affecting their health and other aspects of socio-economic development, and c) promoting and encouraging inter-sectoral cooperation in health matters and other socio-economic projects, ensuring that each member of the health team has clearly defined roles and responsibilities.

3) To develop a health information bank for each practice site.

4) To coordinate the use of all health institutions for the training of various categories of community health workers to facilitate the team approach.

5) To develop a scheme for strengthening, monitoring and providing logistic support for primary health care activities at community level.

Collaboration between Medical School and Kano State Health Authorities

The provision of health care services to the people of Kano State is the responsibility of Kano State Ministry of Health and the various local council health departments. However, the consultant physicians, who are members of the Faculty of

Medicine, offer tertiary health care services at the Murtala Muhammed Specialist Hospital, which is owned by the State Government, in addition to running the Federal Government owned University Teaching Hospital. A member of the Department of Community Medicine and Primary Care of the Medical School serves as coordinator and supervising community physician in the various local council areas, where posting sites are located.

The Faculty also sends different cadres of health staff to work as complementary health workers in the various practice sites in Kano State. Resident doctors from the University Teaching Hospital rotate through the health centres and district hospitals located in the practice areas.

Some of the State Government medical staff CBMES practice areas are given associate lecturer positions in the Faculty and, therefore, serve as additional supervisors for medical students. The associate staff assist in the evaluation of students' activities during their participation in the CBMES programme. The Faculty staff at the practice sites ensure the continuity of interaction between the students and the community between the CBMES postings. They also liaise closely with the Faculty supervisors and the Government staff at each practice site. They take part in the regular Government-sponsored health programmes in the community, such as the Family Planning, the Expanded Programme on Immunisation (EPI), Diarrhoeal Diseases Control, Water and Sanitation, and control of specific communicable diseases. As a matter of policy, the Faculty of Medicine does not duplicate training facilities and services at the practice sites. Rather, the Faculty complements and improves upon the existing facilities and manpower resources that the Government provides at these sites. Both the Kano State Ministry of Health and local council authorities have cooperated well with the Faculty in the implementation of CBMES. The local councils have provided free accommodation, and sometimes transport for our students. The staff of the local councils have assisted our students during their projects by introducing them to the various community leaders who eventually become members of the Health Committees.

Linkage with Professional Bodies

The Nigerian Medical Association (NMA) has adopted the PHC strategy of the Government as its contribution to the provision of health care services to the people living in rural communities.

Workshops have been organised in many parts of the country to educate members of the NMA on the implementation of the PHC strategy. Other medical groups, such as the Association of General Practitioners of Nigeria (AGPN) and the Association of Community Physicians of Nigeria (ACPN), have organised scientific conferences on the implementation of PHC objectives. The Faculty of Medicine has collaborated with the Kano State Branches of NMA, AGPN and ACPN in organising such training seminars, workshops and conferences. Staff of Kano State Ministries of Health, Local Government, Social Development and Education have attended these conferences.

Collaboration with Network Medical Schools

The Nigerian Chapter of the Network of Community-Oriented Educational Institutions for Health Sciences has four full members: Ilorin, Ife, Bayero and Ago-Iwoye. The chapter held its first International Workshop on Innovative Medical Education at the University of Ilorin in February, 1988 and it has continued to meet regularly. Through this interaction, B.U.K. medical school has benefited tremendously in the implementation strategies of its CBMES programme. In addition, the University of Ilorin is currently assisting in the clinical training of our medical students, pending the proper establishment of clinical facilities in Kano. A major contributor to our CBMES programme is the Faculty of Medicine,University of Limburg, The Netherlands, which has sponsored three of our Faculty staff members to various international workshops on innovative medical education.

Conclusion

It has been demonstrated in Kano State, that it is possible to link the medical educational sector with the health service sector to provide a comprehensive health care service to defined communities. Success in this endeavour depends on cooperation by the University and the Ministry of Health with its various agencies.

Traditionally, University and Ministry have only limited communication with each other, so that communication must be encouraged for successful CBMES. The University must invite the Ministry of Health to advise on the training of students, as many graduates will be employed by the State. Similarly, the Ministry of Health must be prepared to invite the University to participate in planning and policy making, as the University has relevant competence and resources. Collaboration by the medical education and health service sectors is of particular benefit in health service research (HSR).

The University must be prepared to initiate projects, and the Ministry should show interest in the results, and implement the findings. Such HSR can be very important in the Ministry's decision making.

By the time students graduate, the barriers that separate the campus-based institution from primary health care clinics in rural communities will have been broken down. As students, they will have been exposed to the health needs of the community and, because they already know the existing infrastructures in these communities, they will be prepared to work in rural areas. This will make them responsive to the health needs of the population. The strategy for community participation, employed in collaboration between the University and health sector, will help students to: a) understand the roles of other members of the health team; b) appreciate the best way of using expert advise; c) understand the importance of reinforcing communication between instructors and supervisors, and between instructors, supervisors, students and health service staff; d) understand the value of feedback from the field, and e) permit collective assessment, allocation and use of educational resources according to need and not according to chance or individual bias.

Acknowledgement

The authors are grateful to all academic members of the Faculty of Medicine, Bayero University, Kano for their contributions towards the formulation and implementation of the CBMES programme.

References

Alausa, O.K. (1988). Community based medical education in Nigeria: the case of Bayero University. *Annals of Community-Oriented Education, 1*, 5-12.

Bankole, M.A. (1988). *Postgraduate medical education in Nigeria: past, present and future*. National Postgraduate Medical College of Nigeria.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 63 - S 68

The Newcastle Experience

Nicholas A. Saunders
University of Newcastle
Newcastle, Australia

Abstract

The Hunter Area Health Board around Newcastle, New South Wales, Australia, is responsible for the administration of community and hospital based health services. The Faculty of Medicine of the University of Newcastle is related to the Area Health Board by appointments of Faculty members to the Board and several of its committees. Moreover, many clinical academics have significant service and executive roles in various health care units of the Board. In this way, productive links between the medical school and the community have been established.

Introduction

Newcastle, a provincial city that services approximately 450,000 people, sits on the east coast of Australia 160 km north of Sydney in the State of New South Wales. Newcastle is a steel making city, and through its port passes much of the nation's wealth in coal and grain.

Newcastle is home to Australia's newest medical school which accepted its first students just over a decade ago. The medical school was grafted on to an existing health care system that had a proud tradition of efficient and effective health care delivery. In the fourteen years since the inception of the medical school, uncertainty and suspicion have been replaced by confidence and collaboration; 1989 sees medical services in the Hunter Area poised to take maximum advantage of the opportunities afforded by the spirit of cooperation between the health care system and the University.

Much of this paper deals with the structure of the relationship between the medical school and health services at a local, state and national level. It is clear that without the development of a structure that involved the medical school in planning and decision making, contributions by individual full- and part-time Faculty members

---

Requests for reprints should be sent to Nicholas A. Saunders, University of Newcastle, Faculty of Medicine, David Maddison Clinical Sciences Building, Royal Newcastle Hospital, Newcastle 2300, Australia.

would not have had the impact that they have had.

However, it is equally apparent that the personal qualities of the individuals who were attracted to Newcastle's Faculty have made the structure work. Clinical credibility, community orientation, capacity for hard work, creativity and vision and, above all, a cooperative outlook have promoted successful collaboration between the health care system and the medical school.

Organisation of Australian Health Care

To understand the role of Newcastle's medical school in the development of health services, it is necessary to describe briefly the funding of Australia's health care system and its universities. Taxes raised by the Federal Government support health care in Australia in two principal ways: support of a universal health insurance scheme which reimburses practitioners on a fee for service basis for services rendered outside hospital; and payment to the State Governments for support of public hospital and community services. The State Government of New South Wales channels most of the funds, which it receives for health, through its Area Health Boards. It is at this level that Newcastle's medical school has its strongest links with the health care system. Both State and Federal Government spend a small proportion of their money for health on centralised programmes including AIDS, the National Health and Medical Research Council and the Better Health Commission. Newcastle's medical school has representation on many of the planning committees responsible for these national programmes. Representation of the medical school on such planning groups is not by legislation; rather, Faculty members are involved because of their special knowledge or expertise.

The funding of universities is the responsibility of the Department of Employment, Education and Training of the Federal Government. Thus, we have a system whereby the State Government is largely responsible for managing the public health sector, yet the medical school is funded directly by the Federal Government through funding for Education, not Health. This arrangement produces confusion and complexity at times.

Health Care Planning

The Hunter Area Health Board (HAHB) is responsible for the administration of community- and hospital-based services in our area, the Hunter Area. It controls a budget in excess of Australian $ 200 million and serves a population of approximately 500,000 people - almost three quarters of a million if tertiary referral from areas outside the Hunter Valley are included in the equation. It has long been recognised that health services in Newcastle have been underfunded in comparison with other areas in the State, particularly in relation to Sydney's teaching hospitals. One of the important roles the Faculty has played has been to help the health service to attract new funds to the Region. The Faculty of Medicine relates to the Area Health Board in a number of ways: a) the Dean is an Area Health Board Member; b) Faculty members are appointed to a number of key committees of the Area Health Board including the Strategic Planning Committee, the Appointments & Credentials Committee (of which the Dean is Chairman), and the Health Care Review Committee; c) Clinical Professors have a formal advisory role to the Chief Executive Officer of the HAHB, and d) many clinical academics have significant service and executive roles within the various health care units of the Board. For example, the Professors of Medicine, Surgery, Paediatrics, and Reproductive Medicine have recently been appointed as Chairman of Department at the new Teaching Hospital which is to open in 1991. As such, they are appointed to the Commissioning Team of the new hospital and have a significant role to play in the development of policy at the new hospital and elsewhere in the Area.

HAHB Strategic Planning Committee

This Committee is responsible to the Board for medium and long term planning (2-10 years) in the Area. It is composed of Board Members, including the Dean, health care administrators and clinicians. In addition, the Strategic Planning Committee has input from two important independent groups:

a) the **Hunter Health Statistics Unit** is responsible for collating and analysing morbidity and mortality statistics in the Hunter Region. The Unit was developed in collaboration between the New South Wales Department of Health, the Faculty of Medicine and the Faculty of Mathematics of the University of Newcastle. The Unit has important service and research functions, including the provision of statistics, to aid planning of health care services and the prediction of likely future use of services, and

b) **Service Development Groups**. These are multidisciplinary groups that represent particular services in the Newcastle and Hunter Area (e.g. Paediatrics, Oncology, Cardiovascular Services). The Faculty is represented on each of these groups, and, together with other clinicians, nurses, allied health professionals and representatives of self-help and other community groups, it is responsible for the development of medium to long term plans fo particular services. The community orientation of the Faculty has found a natural expression in these Service Development Groups.

Appointments and Credentials Committee

All senior medical appointments to the Area Health Service are processed through this Committee. The Dean is the Chairman. This ensures that skills in teaching and research are considered in any appointment in addition to clinical skills required for service provision. The presence of the Dean as Chairman and several other senior Clinical Faculty on the Committee has meant that the medical school has been able to influence significantly staff developments within the Area Health Board structure. In addition, **conjoint appointments** between the Area Health Service and the medical school have been developed. In some circumstances Area Health Board resources have been channelled through the University to create Academic Clinical Units. For example, the Chair of Orthopaedic Surgery with support staff was created by the New South Wales Department of Health to meet a particular need in the Hunter Valley.

Health Care Review Committee

This Committee is responsible to the Area Health Board for the monitoring and evaluation of quality of care delivered by the public hospital and community health systems. It is responsible for overseeing audit and peer review and for the monitoring of education and training of junior medical staff. The Faculty is well represented on this Committee.

Health Promotion and Disease Prevention Unit

An exciting recent development in Newcastle has been the creation of this Unit through cooperation between the Area Health Board, the medical school and a local private health insurance group, N.I.B. The Unit is headed by the Professor of Behavioural Sciences and has strong input from the disciplines of Community Medicine and Clinical Epidemiology. It is responsible for the development and implementation of programmes of health promotion, screening and other disease prevention activities. It is anticipated that in the near future the activities of the Hunter Health Statistics Unit (see above), the Centre for Clinical Epidemiology and Biostatistics (funded by the Faculty of Medicine, the Federal Government and the Rockefeller Foundation) and the Area Health Board's Health Promotion and Disease Prevention Unit will coalesce to become a coherent and integrated Unit dealing with social, behavioural and economic aspects of health care.

Health Care Implementation

Hospital Services

Faculty members hold key appointments in many hospital departments and are able to influence policy development and implementation. There is soon to be opened a

500 bed hospital in Newcastle; the Area Health Board has made a commitment to the University that this will be a teaching hospital in the truest sense and it has demonstrated its commitment by appointing the Professors of Surgery, Medicine, Paediatrics and Reproductive Medicine to be Chairmen of the respective Departments and to be key members of the Commissioning Team.

Community Links

Collaboration between the medical school and the Area Health Board in the development of community services has occurred in a number of ways. The close collaboration in the development of community and hospital services has been mentioned. There are important links in the undergraduate and postgraduate teaching programmes, including the involvement of the Area Health Board in the training of family practitioners and community health workers. The Area Health Board and the University have also supported the involvement of undergraduate students in community-based research, and strong links also exist between the health services and the University in general (family) practice, research and clinical epidemiology. Collaboration is also apparent in the Service Development Groups (see above) where the Faculty has a strong voice in the development of future plans of the Area Health Board.

The Faculty of Medicine has been active in supporting fund raising for health. For example, through the local television station, NBN, millions of dollars have been raised for oncology services and research in the Newcastle Area. Linear accelerators have been purchased, screening programmes have been implemented, and education programmes for prevention of cancer have been developed through cooperation between the Faculty, the Area Health Board and the NBN Telethon. The University has been funded through the Telethon for the creation of Chairs in Surgical Oncology and Cancer Research with appropriate infrastructure.

Education

The Faculty of Medicine at Newcastle has a broad range of activities in postgraduate education, both locally and nationally, in addition to its undergraduate curriculum.

a) **The Hunter Postgraduate Institute**, while an independent body, is serviced through the University. This organisation has a charter for promoting continuing education among all doctors in the Hunter Valley but particularly General Practitioners. Charles Engel, Foundation Professor of Medical Education at the University of Newcastle, was a key person in setting up the Postgraduate Institute, and Faculty involvement in this body has continued since his retirement.

b) **The Centre for Clinical Epidemiology and Biostatistics**, directed by Professor

Richard Heller, Professor of Community Medicine, has had a growing influence on the training of clinicians from South-East Asian and Pacific areas, as well as Australasia, in the Discipline of Clinical Epidemiology.

c) The Faculty of Medicine is represented on the **New South Wales Postgraduate Medical Council**, a body recently set up by the State Minister of Health to supervise junior medical staff training in New South Wales' hospitals.

d) **The Australian Medical Council** was recently established to oversee undergraduate medical education in Australia and to accredit overseas graduates. The University of Newcastle is represented on the Council, and the Chairman of the Accreditation Committee of the AMC is Professor John Hamilton, Dean of Newcastle's medical school.

e) The Faculty has representation on a number of Committees at the **National Health and Medical Research Council** and is thus in a position to take part in national decision making regarding priorities in service development and research.

Conclusion

Since the foundation of Newcastle's medical school by the late Professor David Maddison, involvement by Faculty in community health related activities has been encouraged. The establishment by the Area Health Board and Department of Health of a structure which encourages the Faculty to be involved in health care planning and implementation, has resulted in the development of productive links between the medical school and the community. Recruitment of interested, community-oriented Faculty to the medical school has ensured the translation of dreams into reality.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 69 - S 72

Activities and Strategies to Link Ministry of Public Health and University

Vanchai Vatanasapt, Pisit Sanpitak, Somdej Pinitsoontorn, Arporn Prabriputaloong, Sumit Sutra and Aroon Jiravatanakool
Khon Kaen University
Khon Kaen, Thailand

Suvat Lertsukprasert
Khon Kaen Central Hospital
Khon Kaen, Thailand

Abstract

In 1981 a National Coordination Committee between the Ministries of Public Health and University Affairs was established to facilitate joint efforts in fields such as health manpower planning and education, in health service and in research. Attainments in the development of an information system, in research, in the establishment of a referral system and in medical education are described. The aim is to improve health care and the quality of life.

Introduction

The main objective for Thai medical graduates is to be able to work in the community hospital at district level, predominantly in rural areas (The Thai Medical Council, 1985). Our curriculum is designed so that the student can practise as much as possible in the setting in which he will be working in the future (Vatanasapt, 1985, and Pinitsoontorn, 1987). As these health service facilities belong to the Ministry of Public Health (MOPH), but the University comes under the Ministry of University Affairs, special effort is needed to bond the two organisations together (Pamornpravat, 1986).

The National Coordination Committee between MOPH and the Ministry of University Affairs was established in 1981. The objectives of this committee are (Vatanasapt, 1987): 1) To determine policy and strategies for co-ordination between the two ministries in health manpower planning, production and development of health

---

Requests for reprints should be sent to Vanchai Vatanasapt, Khon Kaen University, Faculty of Medicine, Friendship Highway, Khon Kaen 40002, Thailand.

personnel, health services, health service systems research, research, and academic service; 2) to act as consultant to MOPH and Ministry of University Affairs on cooperation; 3) to recommend on budgeting, personnel and foreign aid; 4) to evaluate related projects, and 5) to set up subcommittees for specific activities as necessary.

In 1987, the need for official cooperation at provincial and regional level led to the appointment of the coordinating subcommittee for Khon Kaen province and the North East region to be chaired by the president of the university and co-chaired by the Khon Kaen chief medical officer (Vatanasapt, 1987). The director of Srinagarind Hospital was to act as the subcommittee secretariat.

The first regional general meeting on collaboration of health services was organised in the same year with 224 health sector leaders and representatives (Vatanasapt, 1987). It was decided to divide cooperation into four areas: on health information system, research, referral system, health manpower- development. Four task forces from the university and the public health sector were appointed. The activities are outlined below.

Strategies to solve problems

The official status of the joint committee; the plan to join all the activities right from the beginning; to work hand in hand and share problems and difficulties; to set a reward system for bringing the two sides together, and to satisfy the needs of individual staff in each ministry.

Information System

Several regional and central meetings were organised to review the whole system of health information with the aim to improve the validity of data, improve data collection and processing, and to suit the need of each level in the region promptly. The plan is to develop the health information centre of Khon Kaen province, so that it can provide effective, efficient and appropriate data (Pamornpravat, 1986). The population-based cancer registry has been established as one of two such registries in Thailand (Vatanasapt, 1989).

Research

It has been agreed to set up a collaborative research committee for health of Khon Kaen as the advisory board for research and to coordinate and publicize the data related to research in health (Vatanasapt, 1987).

With the setting up of a clinical epidemiology unit (CEU) in the Faculty, a research method workshop was organized for Faculty and MOPH staff (Sutra, 1988). This also encouraged the team approach to health problems by the two organizations. Sharing personal expertise in research with individual patients and with populations fosters the holistic approach to health problems of the region. For example, clinicians were encouraged to bring their clinical problems to stimulate research with students using an epidemiological approach. This, in turn, would stimulate medical students and clinicians to concentrate on actual community problems.

Referral System

It has been agreed to set up this task force to develop an effective network for referral throughout the health service system (Vatanasapt, 1987 and 1988).

A better communication system has been established between the hospitals in the region by telephone and two way radio. Criteria on referral were set to meet bed use and the admissions system of each institute. A two way referral system was set up to achieve maximized bed occupancy. The mass casualty plan and the epidemic plan of the region were designed to meet existing facilities.

Medical Education

The staffs from MOPH were invited from the outset to participate in curriculum planning and in the selection of medical students.

The National Coordinating Committee transmitted MOPH decision that the staff in MOPH hospitals and health centres should act as teachers of medical students. The doctors in the community hospital participate as tutors in problem based learning experiences in the hospital and in the community. Medical students experience team work through working with public health officers in the villages collecting data, analysing health problems and partially solving some of the health problems.

Though the budget to maintain this team project is quite high, the outcome from the experience of working among friends from different organisations will enable them to work together in real practice more productively with fewer barriers.

Reward System

The extra work of MOPH staff in research projects and teaching count as important marks for promotion on their career ladder. The title of professor has also been given to MOPH staff for valuable teaching experience and capability as honorary teacher.

Conclusion

During the past few years, since the establishment of the north east regional subcommittee and the endeavour to work together, there has been a distinct improvement in the working atmosphere and sincere collaboration between MOPH and University. We hope this will eventually result in better health care and quality of life for the people.

References

Pamornpravat, N. (1986). *The Fifth National Medical Education Seminar of Thailand, September 8-12, 1986.* Phumiphol Adulyadet Hospital, Bangkok, Thailand.

Pinitsoontorn, S. (1987). Integrated community medicine fieldwork involving health sciences students. *Report of the Department of Community Medicine,* Faculty of Medicine, Khon Kaen University. Khon Kaen, Thailand.

Sutra, S. (1988). *Annual Report of clinical epidemiology unit.* Faculty of Medicine, Khon Kaen University. Khon Kaen, Thailand.

Vatanasapt, V. (1985). Problems and difficulties of problem-based learning and community-oriented programme. *Tutorials in problem-based learning II.*

Vatanasapt, V. (1987). *Proceeding of the Seminar on collaboration of health services in Khon Kaen, June 22-26, 1987.* Khon Kaen, Thailand.

Vatanasapt, V. (1988). *Proceeding of the Seminar on referral health services in the Northeast of Thailand, November 28-29, 1988.* Khon Kaen, Thailand.

Vatanasapt, V. (1989). *Population-based cancer registry of Khon Kaen Province, 1985-1988,* Khon Kaen, Thailand.

A competency standard for practising physicians. (1985). *Revision.* The Thai Medical Council, Bangkok, Thailand.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 73 - S 76

CONTRIBUTIONS BY PARTICIPANTS
Collaboration between Academic Centers and Health Care Systems

The Interface between Health Services and Colleges of Medicine in the Training of Physicians

Ahmed M.B. Alkafajei
University of Mosul
Mosul, Iraq

Abstract

An effective interface between the health service sector and colleges of medicine in the training of physicians is vital for the achievement of Health for All by the Year 2000. A lasting and fruitful partnership between the two sectors is embedded in the establishment of a functional unit of Health Service Manpower Development (HSMD Unit) which serves both sectors. Health service administrators and educationalists of the Colleges of Medicine work together in this unit.

The HSMD Unit should undertake the planning of health manpower requirements, curriculum reforms in the Colleges of Medicine, and continuing education and supervision of physicians. These functions are governed by the national plan for health.

Introduction

In recent years it has become almost customary to express dissatisfaction and concern about the prevailing system of medical education. While efforts are underway for improving the quality of training, these efforts are often limited to technical innovations which are eye catching. Crucial issues tend to be neglected. Too often the new physician is neither technically competent nor emotionally prepared for the new orientation of the health systems (Taylor et al., 1976).

Requests for reprints should be sent to Ahmed, M.B. Alkafajei, University of Mosul, College of Medicine, Mosul, Baghdad, Iraq.

A whole-hearted attempt should be made by medical educators to join hands with health administrators in order to assist in health planning and in developing health strategies suitable for the country. Health manpower development should then be viewed as part of the national plan for health.The systems approach to health manpower development helps to present this linkage in the right perspective.
This functional relationship between the health system and the education system was described as the health manpower system by Mejia and Fülöp (1978).

Health Services Manpower Development (HSMD)

The profession should be willing to agree that medical education must subserve the interests of the health system. Any meaningful strategy for health manpower development must, therefore, be based on a comprehensive understanding of the national strategy for health, and the problems of the prevailing health care system (WHO, 1978). This relationship between medical education and the health services may be compared with the relationship between a producer and a consumer, the medical colleges produce physicians for the health system, the consumer, so that our "products" have to be designed to suit the requirements of the consumer.

It is easy for us to visualise the overall contribution that medical academics can make to the health system. They can assess the immediate and future health needs taking into account the aspirations of the people and the pace of development of the country. They can help to evolve health system models to match the health needs. They can define the competence required for running such a health system, as well as estimate the number and categories of personnel required in a phased programme of development. All of this calls for epidemiological research and health system research, which is well within the competence of a medical college. Medical academics, by virtue of their wide range of expertise in the basic and applied sciences of clinical and community medicine, can contribute maximally in the process.

I would suggest that the establishment of a Health Service Manpower Development Unit (HSMD) within the health system and manned by experts from the medical institutions would assist in the health planning process and act as a vital link between the producers and users of health manpower.

Curriculum Development

In this setting medical academics can create a curriculum befitting such a strategy.

The process of curriculum development includes defining the educational objectives and the learning content choosing, the methods of learning as well as its setting, and selecting the criteria and methods of assessment. These steps are interdependent. It will be clear that appropriate curriculum planning depends upon active links with the health services. It is not possible to frame appropriate learning goals in the curriculum without a thorough understanding of the tasks and the level of competence of the physician (McGaghie et al., 1978).

Plan of Action

It is suggested that the planning of the overall strategy, as well as its evaluation should be vested in the HSMD Unit with representation from the colleges of medicine and other health personnel institutions, the Ministry of Health and the Ministry of Planning. The coordinator should be a person with experience and vision representing the Ministry of Higher Education. The services of experts should be sought by the Unit as required. The HSMD Unit should play an ongoing role and be capable of taking on new functions as for example monitoring and evaluation of the new curriculum. The unit should be independent, with executive powers, and not part of the existing planning structures of the Ministry of Health or the Ministry of Higher Education.

Conclusion

The crucial issue of the need for an effective interface between the health service sector and colleges of medicine has been presented. Such an interface is vital to the successful implementation of a primary health care programme and the achievement of Health for All by the Year 2000. A Health Service Manpower Unit should be responsible for overall strategy planning, as well as evaluation of the health manpower needs with representation from colleges of medicine and health services sectors.

The Unit should be independant with executive powers. In order for the Unit to function it should also execute the duties of curriculum reform in colleges of medicine and continuing education in support of health service needs and long-term health planning.

References

McGaghie, W.C., Miller, G.E., Sajid, A.W., & Telder, V.T. (1978). Competency based curriculum development in medical education: An introduction. *Public*

Health Paper No. 68. Geneva, Switzerland: World Health Organisation.

Mejia, A., & Fülöp T. (1978). ***Health manpower planning: An overview, in health manpower planning - principles, methods and issues.*** Hall, T.L., & Mejia, A. (Eds.). Geneva, Switzerland: World Health Organisation.

Taylor, C.E., Alter, J.D., Grover, P.L., Sangal, S.P., Andrew, S., Takulia, H.S., & List, M.S. (1976). *Doctors for the villages*. India: Asia Publishing House.

World Health Organisation. (1978). An integrated approach to health service and manpower development. Report of the ministerial consultation. *Technical Publication, No. 1*. World Health Organisation, EMRO.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 77

Community-Based Education with its Problems in a Developing EconomY: Ile-Ife Experience

J. Kole Bamgbose
Obafemi Awolowo University
Ile-Ife, Nigeria

Abstract

In 1972, the then Western Regional Government (now known as LOOBO states: Lagos, Ogun, Ondo, Bendel and Oyo States) opened a new medical school with a different orientation called Faculty of Health Sciences, University of Ife, Ile-Ife. This school faced initial problems of peer institutions with traditional and conventional programmes contrary to new innovative ideas based on the following philosophy and objectives:
1) Community-Based Learning in Medical Education
2) Problem-Based Learning in Medical Education
3) Student-Centred Learning
This institution started operations during the economic oil boom of the 1970s with a population of 50 students rising to about 150 per year at the beginning of the 1980s, a period of less than ten years.
In the last 5-6 years more medical schools have accepted this new approach; five new medical schools have switched to this approach for medical manpower development in a developing country.
Unfortunately, due to rapid downward trend in the economy of the country, Ife Medical School is facing serious financial problems in the maintenance and sustainment of this philosophy.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 79 - S 80

Developing an Efficient Health Care System in an Underdeveloped Rural Area in India - A 12 years' Experience

G.K. Banerjee
Rural Medicare Centre
New Delhi, India

Abstract

Since political independence, medical colleges in India have increased from 27 to 107. Private hospitals have sprung up in the larger cities delivering the latest and best of health and medical care for the affluent. However, the countryside with 80% of the population remained "underdeveloped". To counteract this at grass roots level, we decided to experiment with another "efficient" health care system in such an area on a voluntary basis.

First, "efficient" was defined as : 1) within affordable means of the target community; 2) able to break the poverty-malnutrition-disease cucle (explained) and improve their quality of life, and 3) assure an acceptable quality of service.

Secondly, evolve the role of a doctor (specialist) in this setup. Besides providing second level services of curative work, he has to be able to educate members of a team of "paramedics" and village health workers and train them to meet the needs of the community. He has to imbibe himself with the latest of technology of his speciality and with ingenuity, mould it to the best advantage of the target community. Decision making here often varies from set western norms of therapy.

Next we describe our rural setup covering 28 villages in the southern outskirts of the city of New Delhi. More than 80% of the people below the poverty line have a high degree of illiteracy and no social security or health insurance. These people also have twilight cultural values and low standards of living. Our hospital of 12 beds provides second level health including all types of emergencies within affordable means of the community. Two primary health centresare available to the poorest of people in the area. The hospital is manned by boys and girls from the community, trained by us as "paramedics", and primary health centres by local female health volunteerd. Training is conducted by doctors through lectures, demonstrations and practical work. Now our village health workers and paramedics have become trainers of other health workers who come to our centre for training from remote rural development projects of the country. A fair amount of hospital furniture and

equipment is made by the local village blacksmith. Thus in our project we have combined our western technical skills with local human and material resources for the benefit of the community. The paramedics are our health education implants within the community.

In conclusion, after analysing our successes and impediments, we believe that voluntary setups like ours could go a long way in solving health care problems of developing communities. Medical students from western countries visiting our setup (which they are doing in fair numbers) could develop better understanding and a better "collective survival" in the future.

The Community Medicine Development Foundation, Inc.

Dennis B. Batangan
COMMED
Manila, The Philippines

Abstract

The Community Medicine Development Foundation, Inc. (COMMED) is a non-governmental organisation that addresses its efforts in improving the health care system in The Philippines by fielding physicians in the different rural areas all over the country and, at the same time, attracting other physicians into community-based medical practice.

COMMED started in 1986 when ten medical students banded together and decided to work, after graduation in community-based health programmes. What started out as a common dream became reality in 1987 when COMMED decided to formalise the physicians' stay in the communities and develop a physicians' training programme in community medicine. COMMED calls this an "Alternative Residency Programme" in community medicine.

This residency is a two-year programme. For eight weeks, the physicians stay in different communities with community-based health programmes, then they travel back to Manila to attend three-week didactic and/or clinical courses that are relevant to the needs in the communities that they serve. Through the cyclical eight weeks and three weeks formula, the COMMED physicians are slowly identifying and defining the key aspects of community medicine which need to be evolved, developed and tapped for practical application to the field setting.

At present, the College of Public Health of the University of The Philippines Manila has been offering a series of short courses in Community Health Practice for COMMED physicians. COMMED is presently working to institutionalise the residency programme in recognised medical colleges or universities. With this "Alternative Residency Programme" COMMED hopes to encourage physicians to take the "not-so-well-trodden" but promising path of community medicine through a regular training programme.

In a country where 60 out of 100 people die without receiving any form of medical treatment, and where 80% of the population live below the poverty line, the COMMED programme is a significant step in making health more accessible and affordable to more Filipinos and in achieving "Health for All".

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 83

Community-Based Medical Education as a Tool for Strengthening the Health Team Approach in Developing Countries

D.S. Belin
Bayero University
Kano, Nigeria

Abstract

The efficient operation of a good medical care depends on the cooperation of the various members of the health team. Suitability of a health centre as a fishbowl for developing team spirit among various cadres of health professionals (e.g. community nurses/midwives, various cadres of community health workers, laboratory and the x-ray technicians, nutritionists, pharmacists, etc.) and the medical students are discussed against the orthodox hospital approach.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 85 - S 87

Non-Governmental Organisations as Partners for Health Faculties

M.S. Boikhan,
Pakistan Medico International
Karachi, Pakistan

Abstract

Non-Governmental Organisations (NGO's) can fill a gap or assist in the provision of health care. Hence, academic institutions, especially those adopting the Network's philosophy, may consider the collaboration of NGO's to profit from their position and experience. Some criteria for selecting an appropriate partner are reviewed.

Non-Governmental Organisations (NGO's) have choosen their objective to serve various communities according to their problem. NGO's have helped Europe rebuild after the Second World War and provided medical care. They are doing this in the developing world.

In fact, probably more so in the free societies, the non-governmental institutions play a major role in health care delivery systems compared with that of government agencies. NGO's employ more medical/para-medical personnel than many governments.

In many difficult situation such as war, natural catastrophies or internal disturbances NGO's play a vital role, be it the International Red Cross, a church organisation, or even a commercial health institution. Many projects or community studies are piloted by NGO's. Many health problems are identified and amplified by NGO's before government institutions became involved. They have frequently been forerunners in many health related fields. They are flexible and can move quickly as the situation demands. NGO's are not only dedicated but also well organised, so that they can work under economic constraints and in difficult physical environments.

Requests for reprints should be sent to M.S. Boikhan, Pakistan Medico International (Social Welfare Association), Medico Health Centre, Orangi Town Sector 4, Karachi-41, Pakistan.

Quite often they are the only suitable agencies to face community health problems. Their strength comes from the fact that they themselves come from the community and look at the problems as they exist. Generally NGO's enjoy community confidence.

If institutions wish to demonstrate the differences between their students and students from traditional institutions they will need the experience of the NGO's to guide the establishment of appropriate curricula. NGO's feel that students from traditional medical schools are ignorant of problems as they exist in reality. In fact NGO's frequently need to retrain professionals to serve community needs.

How is a NGO started? A few people come together because they identified a problem and find that the existing government agencies do not take care of the particular problem. The new organisation is created to study, analyse and find ways and means to resolve the problem. NGO's are thus forerunners for many problems which are subsequently delt with by traditional health agencies. Depending upon the size of a country there may be anywhere from a few hundred to thousands of NGO's in a given country.

Selection of NGO's for collaboration and feedback may be a problem. An academic institution may approach an NGO to see if its work can assist the institution. Where a medical college can determine its own curriculum it can collaborate with an NGO at various levels, from field visits to surveys and actual training in the hospitals or in the NGO's health system. However, when the NGO originates from a different country, to obtain permission for collaboration may be a lengthy and frustrating experience. At the very least, an NGO manager may be of value to an institution; he can be invited as a guest lecturer.

Many NGO's have programmes such as immunisation, family planning, eye camps, M.C.H. centres, and fully fledged hospitals including teaching hospitals. They are good at carrying out surveys, short term health campaigns, they can highlight health problems. They can also be helpful in printing health education material for the community and they can support larger health programmes within the community. For example, international agencies are fighting against the manufacture of certain harmful drugs. Most of these agencies have trained medical personnel. It would perhaps be interesting to combine the experiences of these agencies, nationally and internationally, for the common good. Although there are so many NGO's, their importance is undervalued because they originate from within the community. Yet

NGO's do understand particular community problems. They can raise funds in the shape of local voluntary contributions and from national and international donors and grants, but they are always short of funds.

What they guard as most sacred is their independence. Unfortunately some are not consistent and keep changing their orientation to problems and strategies. These qualities may make NGO's easy or difficult partners to work with. Even so, collaboration with selected NGO's may be a useful means towards overcoming the present academic and economic constraints in many countries.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 89 - S 94

The Institute of Health Sciences and the Department of Health Partnership for Health Development in Leyte, The Philippines

Rolando O. Borrinaga and Isabel T. Koh
University of The Philippines Manila
Palo/Leyte, The Philippines

Abstract

The development of primary health care in the Leyte/Samar region of the Philippines was stimulated by collaboration of the University of the Philippines' Institute of Health Sciences (IHS) with the Regional Office of the Department of Health (DOH). In the city of Carigara a research and development project was executed which enabled the DOH to design and implement rural health programmes. The IHS also planned education for health personnel that was relevant to the needs of the rural population. Joint research resulted in rapid application of research findings. However, in the execution of the project the blame for failures and shortcoming was transferred to the IHS and the credits for successes went to the DOH. The eventual collaps of the collaboration followed soon after the departure of the DOH Regional Director whose leadership had been the essential bond between the two organisations.

Introduction

The Institute presently the "School" of Health Sciences (IHS) of the University of the Philippines (UP) in Manila, is a daughter unit of the U.P. College of Medicine, a founding member-institution of the Network of Community-Oriented Educational Institutions for Health Sciences. IHS has been described in the literature as the "Philippine experiment" in the development of relevant health manpower for rural areas (WHO, 1978; Abcede, 1978) as an exponent of community-based education for health personnel (Borrinaga, 1985; WHO 1987; Oosterberg, 1988), as an innovative school for health personnel (Richards, et al., 1987), and as an innovative ack at an established institution for the education of health personnel (Kantrowitz et al., 1987).

Requests for reprints should be sent to Rolando O. Borrinaga, University of the Philippines Manila, School of Health Sciences, Palo, Leyte 6501, The Philippines.

However, not much has been said about the role of the IHS as an active collaborator with a regional office of the Department of Health (DOH) in the development of the primary health care (PHC) concept for the province of Leyte and the region comprising the islands of Leyte and Samar (Ministry of Health, 1980).
This paper sets out to fill this gap. The IHS and DOH were interactive partners in PHC development for a period of ten years from 1976 to 1986, when both institutions were under the concurrent leadership of the Director of the Regional Health Services, a leadership arrangement set at the establishment of the IHS in 1976. This paper looks back at this period, describes the basis and the different phases of the collaboration, outlines the results and insights from the IHS-DOH partnership, and indicates future possibilities for both institutions. The experience of the IHS as an academic institution and as a partner of the regional health care system may provide a useful case study for other, similar institutions.

The IHS-DOH Partnership in Health Development

The thrust of the IHS to generate community data to rationalise its academic programmes converged with the DOH thrust to improve the effectiveness of its health services for its rural areas. This resulted in a joint Research and Development Project in Carigara, Leyte, over a five-year period (WHO, 1983). The Carigara Project was technically supported by the World Health Organisation Regional Office for the Western Pacific with support from DANIDA and SIDA.

The primary objective of the Project was to develop a monitoring system which would enable: 1) the IHS to plan curricula and develop training/teaching methods relevant to the needs of the rural population, and 2) the Department of Health, Region VIII, to design and implement rural health programmes relevant to the changing needs of the population. The monitoring system was implemented in five phases:
Phase I (1977 - 1980): reorientation of health workers from providing basic health services to the development of community health programmes in rural areas.
Phase II (1978 - 1981): development of methods for health workers to organise communities to participate in health development work.
Phase III (1979 - 1981): development of methods for lay reporting of family health.
Phase IV (1981 - 1982): development of methods for planning and evaluating health development programmes with the community, using lay reports and official reports.
Phase V (1981 - 1982): development of methods for integrating hospital and public health services at district level.

Results and Insights from the IHS-DOH Partnership

A. Rapid use of the findings. The IHS-DOH partnership promoted rapid use by the DOH of the research findings from the Carigara Project. When "Health for All by the Year 2000" and "Primary Health Care" became international policies in 1977 and 1978, respectively, the DOH proposed to adopt a partnership approach to achieving the goal of "Health for All Filipinos by the Year 2000". The Carigara Project immediately provided the DOH with a practical example of such an approach to health development. The initial experiences of this project were therefore used as a basis for the intersectoral group convened by the DOH to formulate a national strategy for expanding and further developing the experiences which had been started in Carigara. The concept of partnership and its strategy for implementation became part of national health policy in October 1979.

In May 1980, the national strategy document was presented to the World Health Assembly as the Philippine Government's contribution to approaches for achieving Health for All by the Year 2000 (Acosta, 1980). The strategy supported a decentralised and "bottom-to-top" approach to the development and improvement of the health system. The Carigara Project provided the basis for formulating the national guidelines for developing community health activities, the Region VIII organisational strategy, the plan of action for achieving Health for All Filipinos by the Year 2000, and for further experiments on lay reporting of health information for PHC. The Project also served as a case study for community involvement in the development of health services (WHO, 1980) and for the changing direction in health care. During its last year of operation the Project developed methods for planning and evaluating health development programmes with the community, using lay and official reports, and for integrating hospital and public health services at district level. The latter method, the "district health system" concept, was designated part of national health policy in February 1982, and has operated in Region VIII since then.

The social infrastructure, developed in the Carigara study area, facilitated population studies on, and the implementation of a large-scale chemotherapy programme for Schistosomiasis japonica in Leyte. The framework of management, evolved for the Carigara Project, served as experiential "seed" for the creation of the Philippine Council for Health Research and Development (PCHRD) under the Department of Science and Technology (DOST).

Rapid application of the research findings would never have come about if the IHS had acted alone and the DOH had merely waited as an idle bystander and end-user. Instead, the participation of both institutions in a common endeavour, and the active interface between research and application hastened the health development process in the province of Leyte and Region VIII.

B. Evolution of "R&D" as a PHC Research method. The Carigara Project was itself an experiment for the evolution of a research method for PHC. The result was a method known as "research and development " (R&D), which has been officially adopted and endorsed by the WHO as its principal strategy and approach to develop primary health care (PHC) in the Western Pacific. R&D as an approach is accompanied by "strengthening of health services" and "intersectoral collaboration", strategies that have also been developed in Carigara.

C. Evolution and Development of community-based education as an educational methodology. Because of the uniqueness of the educational setting and its surrounding circumstances, the IHS had to develop an educational method that was relevant at the community level. This method would later be known as "community-based education" or CBE.

D. Lopsided rewards and punishment system. However, not everything was rosy in the IHS-DOH partnershiop. This is best illustrated through the rewards and punishment system attached to the Carigara Project. On the one hand the IHS officials received the blame for the faults and shortcomings of the Project, because they were its official proponents. On the other hand, the regional health services received most of the public acclaim and official accolade for the successes and positive contributions of the Project, frequently at the expense of the IHS.

When the "strengthening of health services" approach was being developed for PHC in Leyte, a variety of foreign fellowships were allotted for the staff connected with the Carigara Project. Almost all the places went to the health services staff, even to those who were only remotely involved in the project. The main reason for this trend was the built-in perception that the health services staff could make better long-term use of the knowledge and skills gained from these fellowships, given the permanency of the government health service as an institution. For the IHS, its uncertain and experimental beginning (i.e., it could be closed or transferred at any time) was the underlying reason for withholding foreign fellowships from its staff. It was argued that what they could gain from the fellowships would be wasted, once the experiment had been completed or aborted.

However, what happened to the IHS should be considered as an historical accident that ought never to happen again elsewhere. This lopsided perception appears to have doomed the IHS-DOH partnership for health development right from the start.

Future Possibility

The formal break-up of the IHS-DOH partnership in PHC development happened by default in mid-1986, after the former Director of the Regional Health Services had been promoted to a senior position in the Department of Health. From then on, the relationship between the IHS and the DOH began to adopt bureaucratic formalities, which had been almost absent in previous years. As for the PHC-related findings of the IHS, the DOH is no longer as keen and willing to adopt these findings, contrary to earlier experience when both institutions actually collaborated in the research activities.

It appears inevitable that the IHS and the DOH must shortly begin to collaborate again, in order to continue to build the health system around primary health care (PHC). Next time, however, the set-up should work for the mutual benefit of both institutions, and not to the detriment of one. However, whether this proposal materialises is a matter for mutual consensus and consideration by a sympathetic and more responsive DOH leadership.

References

Abcede, J.C. (1987). Experiment in Leyte. *World Health Magazine, July*, 8-11.

Acosta, A. (1980). *Text of speech included in the "Verbatim record of the 33rd World Health Assembly"*. Geneva, Switzerland: World Health Organisation.

Borrinaga, R.O. (1985). Community experience-based education in the field of Health. *ICMR Annals, 5*, 159-168.

Kantrowitz, M., Kaufman, A., Mennin, S., Fülöp T., & Guilbert, J-J. (1987). Innovative tracks at established institutions for the education of health personnel: an experimental approach to change relevant to health needs. *WHO Offset Publication, No. 101*. Geneva, Switzerland: World Health Organisation.

Ministry of Health (1980). *An organisational strategy and plan of action for achieving Health for All Filipinos by the Year 2000*. Manila, The Philippines: A Private, Community and Government Partnership through primary health care.

Oosterberg, E. (1988). Community-based medical education in The Philippines: The Institute of Health Sciences, Leyte. *Annals of Community-Oriented Education, 1*, 43 - 53. Maastricht, The Netherlands: Network of Community-Oriented Educational Institutions for Health Sciences.

Richards, R., & Fülöp, T. et al. (1987). Innovative schools for health personnel. *WHO Offset Publication, No. 102*. Geneva, Switzerland: World Health Organisation.

World Health Organisation. (1978). Development of health manpower for the rural areas. *Proceedings of the scientific session*, 32nd World Medical Assembly. A report on the Philippine experiment. Manila, The Philippines: Unladlahi Foundation.

World Health Organisation. (1980). Technical presentation on community involvement in the development of health services. *Document WPR/RC31/TP/1*, WHO-WPRO Regional Committee, 31st session.Geneva, Switzerland: World Health Organisation.

World Health Organisation. (1983). Community-based education of health personnel. *Technical Report Series, No. 746*. Geneva, Switzerland: World Health Organisation.

World Health Organisation. (1987). Research and development project, Carigara Catchment Areas (CCA), Leyte, The Philippines, 1977 - 1982. *Project Report*. Manila, The Philippines: WHO Regional Office for the Western Pacific.

Experiences from Ashanti Region, Ghana

Edmun Nii Laryea Browne
University of Science and Technology
Kumasi, Ghana

Abstract

In 1975 the Ghana Government established a second Medical School at the University of Science and Technology, Kumasi. It was founded on a philosophy of problem-based community-oriented medical education and primary health care. Despite the Ghana Government's clear-cut policies on primary health care (2,3), there has been very little collaboration between the Ministry of Health, Ghana and the Medical School in Kumasi. Through its Department of Community Health, the University of Science and Technology has formally established a joint partnership with the Ministry of Health, Ghana in the Ejisu-Juaben district of the Ashanti Region of Ghana.

Since the establishment of the partnership, a full-time lecturer in community health has been appointed as District Medical Officer, with one of the health centers in the district as his operational base.

It is hoped that the health district would develop into a field laboratory where community health skills could be learned and taught, and knowledge and skills acquired, practised in a field-setting.

The paper discusses the establishment of the partnership, the problems and progress so far, and the prospects for the future.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 97 - S 102

The Somali Medical Faculty and its Adaptation to Health Care Developments

Willem F.L. Buschkens
Leiden University
Leiden, The Netherlands
Somali NationalUniversity
Somali

Abstract

Somali National University opened its Faculty of Medicine in 1970. Up to 1978 its curriculum was designed for conventional clinical training in which community health was almost absent. From 1978, the curriculum has been changed to include community medicine, partly as practical training in rural villages. Faculty graduates are obliged to work for two years as general practitioners in rural areas. The problems encountered during this period are discussed.

Introduction

Somalia ranks as a low-income economy. The health status is among the lowest in Africa. A cooperative relationship between Leiden University and the National University in Mogadishu was established in 1981 for collaboration in medicine, pharmacology and medical sociology.

Health Manpower

In Somalia there is a pronounced difference geographically, economically and culturally between the centre and the periphery. The pull of the centre is particularly strong for young doctors with career aspirations and a life style which can best be satisfied in an urban setting. Most doctors congregate in the big cities. The number of rural doctors is smaller than the official figures. Many go temporarily to the city for periods of time on business, for further training or meetings. The majority of doctors is government employed. Somalia has 0.59 doctors per 10,000 population, and the geographical distribution of health workers is very uneven (Table I).

Requests for reprints should be sent to Willem F.L. Buschkens, Rijksuniversiteit Leiden, Institute Cultural and Social Studies, POB 9507, 2300 RA Leiden, The Netherlands.

Table I. Distribution of manpower in Somalia in 1983 (percentages)

	Banadir Region (Mogadishu)	**Other Regions**
Doctor	74.5	25.5
Nurse	39.3	60.7
Midwife	63.9	36.1
Sanitarian	67.7	32.3
Pharmacist	76.1	23.9
Laboratory technician	72.8	27.2
X-ray technician	56.7	43.3

As the lure of the countryside is almost non-existent for doctors and hospital jobs in the big cities are limited, many leave the country and seek employment and a much better income in Italy or in North Yemen, Kathar, Kuwait and Saudi Arabia.

Training of Doctors

Independence in 1960 gave the Somali government the challenge to deal with the health problems of the country. A mass exodus of expatriate medical personnel put tremendous strains on the new nation. In order to fill the gap, a number of students were sent abroad to Western and Eastern European countries for medical training. In 1966 181 students were abroad studying medicine, surgery and dentistry. Many of these students encountered serious problems of adaptation and failed in their aspirations. Others took a long time to graduate. Many became integrated in the host country, especially in Italy. Only a small number succeeded in their studies and returned to Somalia. Even these doctors, because of their Western-styled medical training, were not able to cope with the basic health needs of the Somali population. A training programme was started in 1966 to raise the number of doctors. This included two years of study abroad, mainly in the Soviet Union, and two years of

supervised clinical work in Mogadishu. Upon completion of this training and a final examination, a degree in medicine was awarded (Kaplan,1969). A full fledged training programme within the country became an absolute necessity.
The Somali National University (SNU) was established in 1969 and opened in 1970. The Faculty of Medicine was opened in 1973 and awards a Bachelor's degree. Specialisation is possible in internal medicine, surgery, paediatrics gynaecology, and community medicine. These courses lead to a Master's degree. There are five departments: pathology and morphology, mother and child health, internal medicine, surgery, and community medicine. The Somali staff in 1985 consisted of 69 full time lecturers and assistant lecturers and 53 part-time lecturers and assistant lecturers. There are 21 Italian visiting professors.

The main objective of the Faculty was to train a sufficient number of doctors as quickly as possible to work efficiently in the Somali health services. They should be able to deal with the main health problems of the country. It was thought at the time that this objective could be reached by training doctors in Somalia. Admission to the Faculty was very selective, and the four year course was intensive. The curriculum was mainly a copy of the medical curricula used in Italy. No comparative studies of medical education in other countries were undertaken, and, apart from the Italian visiting professors, there seems to have been practically no contact with educators from any other country. Consequently, little thought was given to an alternative curricular design that would be more suitable for the acquisition of competences for primary care. A WHO mission to Somalia recommended drastic changes in the medical curriculum, in order to make graduates more competent for their task as a rural doctor (Bishop et al., 1976). Accordingly, the Somali Government requested the collaboration of WHO in setting up a training programme in community health.

Fundamental changes were made in 1978. The Department of Community Health was established. It was given free rein by the Faculty to carry out experimental activities with the dual aim of testing the feasibility in Somalia of the community medicine model, strongly supported by WHO, and organising systematic field-training activities for medical students. This initiative accorded with the National Health Plan for 1980-85 which assigned priority to the extension of PHC. The Faculty adopted community-oriented medical education which led to profound curriculum changes. In 1983 the Faculty decided to extend the duration of training to 5 years, emphasizing the quality, rather than the quantity of future doctors. A new community-oriented curriculum was designed without minimising the importance of a solid basic training. Staff members were supported to visit other medical institutions, especially those which were community-oriented. The Faculty became an associate member of the Network of Community-Oriented Educational Institutions for Health Sciences and made use of the exchange of scientists programmes of the WHO Eastern Mediterranean Region.

At present the curriculum is divided into ten semesters, and community medicine is taught in all semesters. The first semester is mainly devoted to basic sciences, the 9th and the 10th are occupied by medical and surgical clinical instruction (Farah et al., 1988). The subjects which are taught in Community Health from the 2nd to the 8th semester are demography, ecology, medical anthropology/sociology, nutrition, hygiene, epidemiology, preventive medicine, traditional medicine, and health organisation and planning.

During the last few years, the Department of Community Health has been conducting field training programmes. The aim is to make future doctors aware of the health problems of the rural community and to organise and implement health services with limited resources. Research activities have been closely integrated with these teaching activities. Field training has been organised in six rural villages at a distance of fifty to seventy kilometers from Mogadishu. The villages have between 1,000 and 2,500 inhabitants, mainly consisting of farmers. There is neither electricity nor running water (Capelli, 1984). The practical training is combined with research activities. Unfortunately, this part of the training has not yet been fully developed because of lack of finance, resources, facilities, supervising teachers, lack of understanding by a number of teachers of the social aspects of health care, and little motivation by a number of students and teachers to work in rural surroundings. In their last year, the students undertake a term of practical work in a rural health centre, usually in a district hospital.

After graduating, the young doctors train for a further 6 - 9 months in a Mogadishu hospital, but this training is not obligatory. This means that some graduates do not use this opportunity to gain practical hospital experience.
Almost all doctors are obliged to work as general practitioners in rural areas for a period of two years. Despite their community-oriented training, most new graduates experience this period as very negative, even as traumatic. These were some of the findings of the Somali-Dutch workshops, post-graduate courses in Medical Sociology and Health Planning, organised in Mogadishu in 1984, 1986, 1987, 1988, and 1989 by the Somali National University and Leiden University. These workshops lasted for 12 days and were attended by young male and female doctors. Most of

them had experience of working in a rural setting. It became clear that almost none of these doctors were interested in working in the countryside. They wanted to specialise and work in urban medical institutions or surgeries. Rural work seemed incompatible with their desired life style.

Participants at the workshop were frank about the problems they had encountered during their rural posting: no chance for professional advancement. They felt forgotten by those who could help them in their career. Career possibilities were almost not existent in rural situations. Basic rural health services provided an insufficient salary, and private practice was not permitted in rural areas.
Lack of proper housing, running water, electricity and sewerage were frequently absent or not functioning. Social isolation; it was often difficult for doctors to establish a good relationship with the local people. Inadequate medicine, supplies and equipment; the logistics of medicines, through public channels, was poor. Equipment in rural health facilities was old fashioned and in need of repair. Poor transport and communication; postal services and telephone functioned inadequately. Vehicles tended to wait for repairs for a long time, due to complex bureaucratic procedures. The farther in the periphery, the poorer the assistance rendered by nurses, medical assistants and laboratory personnel. Lack of recreational opportunities; wife, husband, fiancee or other family members objected to living in rural areas.

Not only the above factors but also the lack of practical know-how made it difficult to work as a rural doctor. These new graduates performed unsatisfactorily in simple manual skills like wound dressing, bone setting, elementary obstetrics and surgery. This was an important reason why these doctors were not accepted by the rural community. The doctors also complained that they had not enough knowledge of elementary laboratory tests, which made diagnosis difficult. These deficiencies are due to a number of factors. Teachers are often overbundened with time-worn didactic lectures to overcrowded classes. The Faculty lacks adequate and appropriate learning materials which could facilitate mastery of the required techniques. In a Muslim country, anatomical dissection is not possible, nor are students allowed to practice elementary diagnostic techniques on each other; physical contact between male and female students is completely out of the question. A number of Italian professors spend only one semester in Somalia and are then replaced by other colleagues from Italy in the next semester. Their methods of teaching are generally traditional. Many realise only at the end of their stay that Somalia needs a different type of doctor from those in Italy. They do not pay enough attention to the locally prevalent tropical diseases. The Somali teaching staff has generally had little teaching instruction and has hardly any knowledge of how to guide students towards their responsibilities as rural doctor.

However, in order to change the situation, the Faculty has used its contacts with the Network of Community-Oriented Educational Institutions for Health Sciences. In 1985 the dean and two staff members attended a workshop "An Introduction to Problem-Based Learning" at the University of Limburg in Maastricht. As part of this workshop the Skills Laboratory was demonstrated to show how practical skills can be developed.

References

Bishop, J.M., Ronaghy, H.A., & Tiddens, H.A. (1976). *Assignment report medical education*. Somalia: World Health Organisation - Eastern Mediterranean Regional Office.

Capelli, A. (1984). Somalia, from the university campus to the village. *Cooperazione*. (English edition), 44-45.

Farah, A.A., & Buschkens, W.F.L. (1987). Community-oriented training in Mogadishu, Somalia. *Newsletter, Network of Community-Oriented Educational Institutions for Health Sciences, 7*, 7-8.

Farah, A.A. et al. (1988). The School of Medicine of the Somali National University. *Proceedings of the Third International Congress of Somali Studies*, 372-377. Rome, Italy: Annarita Puglielli.

Kaplan, I. et al. (1969). *Area handbook for Somalia*. Washington, DC: The American University.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 103

Development of an Educational Space in the Community

Pablo Carlevaro
Universidad de la República
Montevideo, Uruguay

Abstract

Integral medical education implies the formation of the doctor in the understanding and ability to manage - at the level of the general practitioner - the biological, psychological and social aspects inherent to the situation of illness as well as the healthy state of the individual and the community to which he belongs.

The tendency should be to establish the group of students in the community space as early as possible.

The community as educational space is a complex entity. In this complexity, the people are the most important factor. When educational experiences involve their own responsibility; creating live and personal experiences, the medical students should naturally take sides with the sick person and strive for the health of the people. The presence of students in the community, really inserted and developing tasks according to their level of capacity, is absolutely necessary for the development of the integral formation that includes the seed elements of their ethical formation. A formation that pretends to be integral is not so if it does not add appropriate contents of mental health to the rest of the aspects that are traditionally included. The separation of the soul from the body - as a fact - has damaged medical education. It has artificially removed an essential content of the patient's problem and, what is still worse, has contributed to inhumanise the formation of the action of doctor and to deteriorate essential questions for handling healthy and sick people. Mental health, in the community space, has a dimension that surpasses what is strictly medical, in the traditional sense of the word. It is part of primary health care and should be developed with a wide perspective of participation of the community through its social institutions.

The unequivocal existence of advances and achievements in the programmes of education in the community ratify the certainty that educational changes and transformations are both needed and feasible.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 105

Community, Primary Health Care and the Faculty of Medicine

Harrie Crebolder, Ferd Sturmans, René Kocken and Job Metsemakers
University of Limburg
Maastricht, The Netherlands

Abstract

An overview will be given of the recent developments with regard to the community orientation of the Faculty of Medicine. This will be done by considering five characteristic aspects: the principles underlying the school's activities; the main emphasis in the curriculum; the part in the curriculum by learning from experience; the extent of community involvement; and the organisational linkages between the educational and health care delivery systems (1).

Emphasis will be laid upon: learning from experience and the organisational linkages between the educational and health care delivery system.

About half of the total number of general practitioners of the region are already involved in medical education.

Formal agreements are reached with 30 practices.

They concern 66 general practitioners. This constitutes a framework for primary care research and innovative medical education.

Proposals and preliminary results will be presented. One of the proposals is to expose students systematically and substantially to primary care problems and morbidity, from year one onwards.

(1) Richards, R., & Fülöp, T. (1987)
Innovative schools for health personnel.
WHO offset publication No. 182.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 107 - S 115

Community Mobilisation in Health Care Development

Stacey B. Day and Charles C. Effiong
University of Calabar
Calabar, Nigeria

Abstract

The College of Medical Sciences, University of Calabar, has organised medical education in the direction of a primary health care synthesis of biological problems within sociological parameters (biopsychosocial) since 1982. Educational and training approaches and the process of implementation and management of primary health care has been directed to the local government area and at the community level of the people to encourage them to provide health care services for themselves (self-health and self-help) at the village level.

Our work since 1982 at Oban, Ikot Oku Okono, and Nsit Anyang against severe environmental limitations, in large rural populations with severe impairments of health and well being has convinced us that notwithstanding problem-solving approaches and strategies, the key to delivery of any health service in a community is Community Mobilisation. We urge emphasis on ceasing to think of people as "consumers" or "patients" and to think of them as partners in health progress. We reinforce Professor Ransome Kuti's (Federal Minister of Health, Nigeria) view that Community Mobilisation is a means of encouraging, influencing, and arousing interest of people to make them actively involved in finding solutions to some of their own problems, leading to self-reliance and initiatives.

Our report presents results from a community extending over 200 km (Ekang, Cameroon border to Calabar), including over 460 mothers and babies, and demonstrates that Community Mobilisation is a continuous approach, team executed with community participation, that will be expected to outlive any one health team worker. We include discussion of the formation of local government area primary health care committees; mobilisation, re-orientation and re-training of local government area staff, teachers, related workers, etc.; and the formation of health care management committees.

Requests for reprints should be sent to Stacey B. Day, 6 Lomond Avenue, Spring Valley, N.Y. 10977, USA.

Introduction

A knowledge of the context in which the University of Calabar was developed in 1978/1979 is essential to the understanding of health care development in South Eastern Nigeria. In April, 1975, the Federal Military Government of Nigeria had announced that, as part of the Third National Development plan, seven new institutions would be established at selected locations throughout the nation. The College of Medical Sciences was inaugurated at Calabar. It is pledged to a number of guidelines, including: "developing universities that involve themselves in community service and the overall development of life in the community through active participation in local development activities, as well as socio-cultural activities". It is not without interest that these new Nigerian schools anticipated the general aims and strategies enunciated at the Kingston, Jamaica, Network Conference in 1979, which emphasized the education of health professionals in a way that is attuned to the health needs of the societies they serve.

Geo-political Considerations

Cross River State, of which Calabar is the capital, was until relatively recently a rural area of 28,585 square kilometers in South Eastern Nigeria. Data related here were obtained during 1982 - 1987, that is before the division of the region into two states, Akwa Ibom and a smaller area, still properly known as Cross River State. The people of the region include many ethnic groups: Efik, Ibibio, Annang, Ejagham, Ekoi, Bekwara, as well as smaller communities of Hausa and Cameroon residents.

Calabar, the principal city of the region, is sited on a peninsula between the Calabar River and the Great Kwa River. The estuary of the Calabar River, with rich deposits of off-shore oil, provides easy access to the Bight of Bonney. This natural waterway encouraged early trade with the Portuguese and later settlement by the British.

Medical Education

There had been growing dissatisfaction that western models of health care delivery could not provide instant answers to the nation's health needs. In the Developing World, it is the biopsychosocial approach that comes first, not the biological sciences (Day, 1985). Recognizing that preventive and social paradigms are more critically important than curative strategies, opinion in African Universities has called for assistance *"in the training of scientific creators, investigators, and innovators whose researches would be directed at finding solutions to African problems"*

(Makany, 1982). The African University was seen by African educators as having an obligation to act as *"an instrument of development"*. In this vision, educational change must take shape within the framework outlined by the Secretary General of the Association of African Universities, that *"the African University in the year 2000 is first of all a philosophy, an idea to assert ourselves as Africans"* (Makany, 1982). About the same time, Ransome-Kuti (1983), mindful that Nigeria is a country of rural communities, stressed that medical education cannot *"leave the majority of the people further and further behind"*.

These sentiments were understood at Calabar. The medical curriculum included studies in community health from the first year on, and increasingly so in the subsequent years. Primary health care, family medicine, a rural training programme and a biopsychosocial approach to health was adopted in the medical school curriculum. State and Federal Health Services were integrated with the university programme, and medical students graduated as physicians trained in an environment of academic and state cooperation. Slowly this spirit and practice of integrating state and federal community health care with university medical education has set the pattern for South East Nigeria. It should be noted that Faculty participation grew voluntarily, although the strategy was inherent in the integrative organisational philosophy of the Community Health Division of the College of Medical Sciences and its partnership with the Regional Health Services of Cross River State. The interface between health manpower, education and health care, especially rural health, not only enhanced the medical curriculum, but also ensured that a biobehavioural approach would be included in what in other centres had been a purely biological curriculum. In summary the following points should be made: a) the programme has a fundamental community orientation, and rural health care issues with early clinical exposure are emphasized; b) the curriculum is highly integrated in both laterally (between subjects in each year) and vertically (throughout the six years of study leading to the MB/BS degree), and c) the biopsychosocial approach was encouraged from 1982 onward. Social studies, clinical medicine including aspects of traditional (African) medicine, public health and community health, and general practice medicine, began in the first year and continued until the students graduated.

Community-Based Programme Orientation

Vital statistics are hard to establish in Nigeria because the last census was in 1963, and registration of births and deaths was not compulsory and far from complete. In

1979 only 9,7% of expected births and 3,2% of expected deaths in Cross River State (CRS) were registered, according to the Statistical Bulletin of the CRS Ministry of Health. Estimates of vital rates for Nigeria as a whole for 1980 placed the crude birth rate at 50 per thousand population; the crude death rate at 18 per thousand population; infant mortality rate at 150 per thousand live births, and life expectancy at birth at 48 years. Children below 15 years made up 47% of the population, and people 65 years and above made up 2% of the population according to the same estimate.

In an effort to gauge the reality of expectations of *Health For All By the Year 2000*, a survey was undertaken in 1982. This covered public and private hospitals, medical centres, rural health centres, and dispensaries in Cross River State. Comprehensive information regarding the facilities, equipment, number of beds, number and details of professional and other trained personnel were gathered, as well as characteristics and attitudes of a 19,4% sample of all trained health personnel in the state (El-Tavil and Akpan, 1982). An analysis of the available health care resources, in relation to the health care needs of the urban and rural population of the state, identified the magnitude of the problem faced by our academic institution. Shortage of health care institutions and professional and auxiliary categories of health personnel was worse than in Nigeria as a whole. Primary health care was available in 177 villages with health centres or dispensaries. It was found that somewhat less than 900,000 persons of a total rural population of 4,600,000 were covered by some form of primary care - less than 20% of the rural population of the state. It was clear that we would need at least 200 more primary health centres and 800 - 900 more small village clinics to raise primary health coverage of our rural population from 20% to above 75%, by the year 2000, when the rural population of the region would have grown to an estimated 7.5 million. The severe environmental conditions of tropical rain forests, lack of communications and transportation, and poor socio-economic potential made it clear that a shift from doctor-centred to community-based programmes must take place. Medical education and training processes have been directed towards implementation and management of primary health care during the last decade.

In 1982, in the belief that the individual who receives the services of the various programmes responds not segmentally, but in the context of his total need, *self-help* and *self-health* were emphasized in our rural teaching programmes. The "management" driving these efforts was a mix of academic and state/federal institutes - the University, the State Health Management Board and Ministry of Health, agencies of the Federal Government, and a few forward looking private corporations and prominent local physicians in practice. Our medical students were posted for periods of two months to live in rural villages and acting as "front line doctors".

Notwithstanding these efforts, *management* issues in rural outreach programmes continued to be difficult, and rural health needs were often unmet. Critical problems remained; integration and coordination of various outreach activities, and persuading health care workers to function as a *team*. The Federal Government of Nigeria set out to reduce these types of deficiencies by improving the implementation of primary health care services in Local Government Areas.

Primary Health Care at Local Government Area and Community Level

During 1986, 1987, and 1988, the Federal Ministry of Health of Nigeria studied the process of implementation and management of primary health care at community level in over 100 selected Local Government Areas. Based on these studies, Ransome-Kuti (1988) identified ten activities that had to be carried out before integrated health services could be delivered by any community: a) community mobilisation; b) formation of Local Government Area Primary Health Care committees; c) production of a map of the local Government Area by districts; d) division of the Local Government Area into districts; e) mobilisation, re-orientation and retraining of Local Government Area staff, teachers and related workers; f) assignment of a health team to each district; g) formation of district health committees; h) formation of villages, street/neighbourhood health committees; i) numbering of houses with special Primary Health Care numbers for easy referral and channeling of patients, and j) placement of home-based records and growth monitoring charts in homes.

Community Mobilisation

The mandate for *Community Mobilisation* to us appears unassailable, an opinion based not only on the concept of the community as a classroom, but also on experiential interaction with alternate options, i.e. JMOU/US-AID programmes in which members of the class and the community are often transported to the developed world "for education and instruction". Community mobilisation is a means of encouraging, influencing, and arousing the interest of people to make them actively involved in finding solutions to some of their own problems, leading to self reliance and initiatives (Ransome-Kuti, 1983).

Community Mobilisation is an ongoing programme that can be expected to outlive any one health worker. As exemplified by the Calabar programme, the strategy is not left to the lower cadre of health workers alone; the exercise recorded here demonstrated active participation of the Vice-Chancellor of the University, supervisory officers of health of the Local Government Authority, as well as doctors, nurses, community health officers, supervisors, assistants and other health care practitioners down to village personnel. In the community, from leaders to market women, tradesmen associations and religious officers, everybody is included. The diversity of culture in different local government areas is one of the most forceful reasons for employing this strategy for implementing primary health care.

An Exercise in Primary Health Care by Community Mobilisation

In November 1988 the University of Calabar combined with the University Teaching Hospital, the Local Government Area and its several committees to mobilise the villages in the region from Calabar to Ekang (on the Cameroon border) some 200 km away. The purpose was to prepare for a major training programme in intersectoral health priorities - growth monitoring, oral rehydration therapy, antenatal care and family planning, immunisation for health, and education for health to highlighten clean water and sanitation.

On location practical teaching led to the registration of over four hundred and sixty mothers with some 460 children (Table I). Health education was also given on growth monitoring, preparation of salt-sugar-solution and the use of oral rehydration therapy.

Table I. Impact of community mobilisation programme

Services Provided	**New Cases**	**Old Cases**	**Follow-Up**
Immunisation	255	122	-
Pregnant mothers	53	-	-
Family planning - IUD	20	7	3

Senior nurse tutors and their teams visited *every* village in the region, usually on foot. In each village, they established a village committee and recruited two women to cook for the mothers and children who would travel to the training location. Staff from the Medical School, the teaching hospital, the Health Ministry and health agencies, and from private medical centres, participated.

Effective community mobilisation, over so wide an area of the tropical rain forest, indicates that integrated primary health care services in remote villages is highly feasible.

Minimum Requirements for Community Mobilisation

1) The entire Local Government Area (LGA) must constitute the target area for the purpose of primary health care. In this way *everyone* in the community will be a candidate for mobilisation (Ransome-Kuti, 1988).

2) The Local Government Area Primary Health Care management committee should include: a) supervisory councillors for health; b) LGA primary health care coordinators; c) university or other institutional primary health care coordinators; d) officers from the Health Management Board and Ministry of Health; e) development officers from other associated ministries (Education, Rural Development, Management and Planning); f) community representatives including women, and g) literacy officers and media representatives.

3) The role of the LGA primary health care management committee should be to: a) plan at the LGA level; b) identify training needs of health workers and arrange with University and/or other institutions to educate them suitably; c) develop fiscal and budgetary plans at the LGA level, and d) mobilise the community in association with other agencies and institutions committed to the programme.

A review of the Calabar Programme Focusing on the Integrated Primary Health Care Mission

1) Our University and LGA associated teams had toured all villages and determined priority health needs.

2) *Intervention* for needs were identified, as were required additional services and facilities. For example at Oban we built two advanced community pit latrines.

3) Resources, funds and transportation needs were identified and satisfied.

4) Team leaders from the University mobilised and trained the health workers.

5) Networking referral points were set up, including consultant colleagues abroad (USA).

6) The programmes were monitored and evaluated. Continuing follow-up and repeat programmes were planned.

Sustainability of Programmes and Discussion

Community mobilisation, we believe, ensures continuity of purpose and creates the concepts of sustainability and viability of strategies for long term effects of self-help measures. When a community fully participates, sustainable results become realistic possibilities even in the face of deteriorating socio-economic conditions, poor communications, and hazardous environmental variables - such as heavy rains and widely dispersed locations.

In our view, such integrated, interactive participation enables
community members to be partners in the health process and cease to think of themselves as "patients". Our experience showed that availability of food, transport and drivers is a critical factor. In addition, trained health personnel, as well as adequate supplies of primary health care drugs are required. Given the support of communities in this way, the funding to mobilise the communities, and the resolve that such programmes must be implemented and continued over time, we believe that the *Health For All By the Year 2000* strategy has a great chance to succeed in poorly served regions of South East Nigeria.

Acknowledgements

We note collegially members of the Planning Team who contributed to these community mobilisation studies. Prof. J.R. Ana was Acting Provost, College of Medical Sciences, University of Calabar and a driving force for the exercise in cooperation with Ntufam G.E.O. Itokem, Clan Head, Oban, Akampka L.G.A. Dr. N.W. Ikpatt and Dr. Emmanuel Ekanem with other colleagues ministered in the villages under the direction of Dr. A.A. Asindi, Acting Head, Department of Paediatrics, University of Calabar. Principal Health Nursing Officer Ms Clara Ofere and Principal Health Sister, Mrs. M.V. Young and their teams led all liaison work in the community between village people and the academic/state interaction.

The field work and preparation for the programme required some nine months of preparation, often without adequate transportation and under rainy season environmental hazards. It is upon such teams as these that sustained outcome of the strategy of *Health For All* will depend.

References

Day, S.B. (1985). Clinical biopsychosocial practice and primary health care in Eastern Nigeria. *Social Sciences in Medicine, 21*, 1383-1389.

El-Tawil, M.B., & Akpan, E.A. (1982). Health care delivery institutions and health personnel in the Cross River State of Nigeria. Department of Community Health Seminars, College of Medical Sciences, University of Calabar.

Makany, L. (1982). Role of African universities in the promotion of culture and science as basis for development of Africa. *Inauguration of the University of Botswana*, October.

Ransome-Kuti, O. (1983). Child health priorities in Nigeria. *Keynote address delivered to the Annual conference of the Paediatric Association of Nigeria, Calabar.*

Ransome-Kuti, O. (1988). *A keynote address on delivery of primary health care services guidelines,* by the Honorary Minister of Health, on the occasion of a workshop on Training the Trainers, at the College of Medical Sciences, University of Calabar, November.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 117

Community-Oriented Medical Education for North America: A New Consortium

Stewart Duban and Arthur Kaufman
University of New Mexico School of Medicine
Albuquerque, U.S.A.

Abstract

North American medical schools are embarking on educational innovations stressing community orientation and population health. Emulating their sister schools in developing countries, a growing number of schools in North America are exploring innovations which will yield a larger impact on the health of our communities.
The Rockefeller Foundation and Pew Charitable Trusts have pooled considerable resources to fund a five-year grant initiative entitled Health of the Public. Six North American medical schools were selected from 89 applicants, to pilot innovative educational models which can be replicated elsewhere. The schools selected are the University of New Mexico, Columbia University, John Hopkins Medical Schools, the University of Washington, the University of North Carolina and Tufts Medical School.
The grants are intended to support innovations in the education of medical students and residents in the specialties, as well as the introduction of innovative relationships between academic health centers and the health service sector. The six institutions have focused on the learning and application of clinical epidemiology, health economics, social science methods, and individual and population disease prevention. Political strategies for community-based health change and early and sustained community-based learning are favored approaches.
In each case, the schools are building alliances with different components of the health service sector, including the public health service, private practice community, public and private insurance organisations and consumer groups.
A unique feature of the programme is the emerging cooperation between the six schools in developing common elements of a Health of the Public curriculum and a common strategy for implementing such curricular reform in traditional medical schools in North America. There is both safety and political power in numbers.
The paper will enumerate on the creative approaches developed by the six institutions and review the importance of building innovation coalitions as a force for relevant national and regional change in medical education.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 119

Strategies to Improve Cooperation of Academic Centers and Health Care Systems in Africa

Ehigie Ebomoyi
Tulane University
New Orleans, U.S.A.

Abstract

This study assessed the opinion of highly skilled African professionals and post-graduate students in health sciences discipline on the strategies to effect cooperation of academic centers and health care systems in Africa.

A stratified random sample of 100 subjects participated in the study. Stratification was by professional category.

A total of 50 questionnaires were mailed to the skilled African professionals and the same number to the post-graduate students in the health sciences academic area. Of the entire subjects, 43.4% stated that the existing cooperation between academic centers and health care systems was barely satisfactorily. Over 60% of the subjects felt academic centers should be allowed to pursue intrinsic cognitive activities. Additionally, 60.8% of the subjects highly ranked the statement that the cooperation between the two bodies can occur if political leaders are convinced of the benefits of such collaboration.

Only 21.7% of the respondents stated that the role of teachers in academic institutions is crucial to effecting collaboration.

Impediments hindering effective collaboration included poor renumeration inability of health care administrators to realise the benefits of collaboration; non availability of an effective model and the divergent goals of health care systems and academic institutions. Based on the elicited data, a model was prepared.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 121

Community-Based Medical Education: Bayero Experience

M. Ennin, D.S. Belin and L. Alhassan Bichi
Bayero University
Kano, Nigeria

Abstract

1) Bayero University Medical School is a newly established institution which adopted the community-oriented community-based medical education philosophy from inception in 1986.

2) The faculty-based programme involves learning in the school or hospital setting and six community clerkships totalling 32 weeks spread over a five year medical programme - probably the most extensive of its type.

3) Communities used as clerkship sites are selected based on a set of criteria designed by the faculty.

4) Three sets of medical students have been exposed to the programme so far. Students and staff assessment of the programme is presented.

5) The major issues and problems that can adversely affect such a programme in a developing country are reviewed.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 123 - S 124

Medical School and Community Linkage in Confronting Major Health Concerns: The Case of Alzheimer's Disease

Michael Glasser, Patricia Campione, Mary Dickover and Nancy Garry
University of Illinois College of Medicine at Rockford
Rockford, U.S.A.

Abstract

This paper incorporates three objectives: 1) review of the history of the development of a medical school and community linkage in confronting the multiple problems associated with the diagnosis, management, and understanding of Alzheimer's Disease; 2) delineation of the specific problems and benefits encountered in forming a partnership between medical school and community; and 3) suggestions regarding future endeavors both between the particular medical school and its community and other institutions and their surrounding regions.

The medical school discussed is the University of Illinois College of Medicine at Rockford, a regional campus of the university's medical school and located 90 miles northwest of Chicago, Illinois. Rockford has a population of 139,000 with nearly 250,000 people living in the area of two adjacent counties.

In the development of linkages the medical school moved in two directions: 1) interaction with a variety of existing resources in the community, including hospital programmes in geriatric assessment; nursing homes with special Alzheimer's units; adult day care; local physicians; and the regional chapter of an Alzheimer's Disease association offering support for family members; and 2) development of ties with statewide initiatives for service, delivery, education, research, and resource allocation for Alzheimer's Disease. A major role provided by the school has been that of "catalyst", in offering many specific functions from being a meeting place to compiling data to supporting key personnel to serving as a liaison between local and statewide initiatives. In the latter, the medical school has been designated as a coordinating site for state Alzheimer's Disease Assistance Centers. In turn, representatives from the various community organisations mentioned above have provided their expertise and insights based on their day-to-day contacts with Alzheimer's patients and caregivers.

We feel that the medical school-community relationship has benefited from taking a specific problem focus - i.e. Alzheimer's Disease. Yet, interactions are developing

beyond this focus to discussing health care issues for older adults in general. Experiences, successes and failures will be presented related to: establishing a system of contacts with "informal" or family caregivers; use of a team approach in Alzheimer's Disease intervention and management; "turf" issues/conflicts in contacts with patients; introducing a standardised protocol for the diagnosis of dementia; and coordinating local activities with both state and national agendas.

Annals of Community-Oriented Education
1990, Vol. 3, S 125

Designing Instruction on Human Reproduction: A Process of Innovation Diffusion

A. Hidajat, Andi Ansharullah and M. Arif
Brawijaya University
Malang, East Java, Indonesia

Abstract

To anticipate the future trend of the Indonesian nation building especially the promotion of health and welfare of the community, Indonesian physicians bear a special responsibility for the success of family planning and population control programme.

To face this challenge it is imperative to innovate a new medical educational approach for Indonesian Medical Faculty in order to produce doctors which acquire the basic necessary knowledge, attitude, derive intellectual satisfaction in promoting reproductive function and acquire adequate professional skills for delivering services for the problems of human reproduction.

Since every change in system and attitude has the constraints of unwillingness and resistance, it is imperative to seek a proportional approach of changing. One alternative as proposed in our poster is a diffusion of innovation approach which basically is an approach of gradual change starting from a free interest group of staff up to a compulsory change.

Community Health Science: A Catalyst for Change

Adnan Ali Hyder
The Aga Khan University Medical College
Karachi, Pakistan

Abstract

The students of the Aga Khan University are required to spend twenty percent of their curriculum time working in the squatter settlements of Karachi. Grax village is one such area where a primary health care programme is being developed by the Department of Community Health Science of the Aga Khan University.

This presentation will:

- *give a brief introduction to Grax village;*
- *describe three case histories of families living there and the everyday problems they face in this day and age;*
- *an analysis of the causes for their problems and the role of primary health care programmes and the health professionals involved in finding their solutions;*
- *my personal view as a medical student, on how my experiences in Grax have helped me to develop both as a professional and as a person.*

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 129 - S 132

Community and Family Case Study Programme at The Universiti Sains Malaysia: An Experience in Self-Directed, Contract, Learning

Rogayah Jaafar and Mohd. Hashim Mohd. Hassan
Universiti Sains Malaysia
Penang, Malaysia

Abstract

The School of Medical Sciences, Universiti Sains Malaysia, has embarked on an integrated, problem-based and community-oriented approach in its innovative medical education programme since its inception in 1980. In line with institutional and national aspirations, community medicine is integrated in all three phases of the medical curriculum. Emphasis is placed on community and social issues and problems in everyday teaching and learning activities throughout our medical education programme. This paper summarises the underlying principles of self-directed learning adopted by the School of Medical Sciences for its Community and Family Case Study programme. It also presents an example of such a learning contract, as well as evidence of accomplishment by one of our students.

Introduction

The objectives of the medical education programme of the School of Medical Sciences, Universiti Sains Malaysia, is to produce 'A competent medical practitioner who is equipped with a spectrum of medical knowledge, is able to apply it in problem-solving, be it at an individual or community level'.

Upon graduation, the student should be able to:
a) understand the scientific basis of medicine and its application to patient care; b) acquire a satisfactory standard of clinical competence; c) acquire satisfactory behavioural and communication skills, necessary for instituting patient management; d) understand and appreciate the socio-cultural background of the patient and his environment in formulating a plan of management including long term management and follow up; e) understand the broader role and responsibilities of medicine in

---

Requests for reprints should be sent to Rogayah Jaafar, Universiti Sains Malaysia, School of Medical Sciences, Kubang Kerian, Kelantan 16150, Malaysia.

society and play the role of leader in the health care team and the community, and f) use the knowledge acquired to pursue continuing medical education.

The CFCS Programme

The Community and Family Case Study (CFCS) programme was formulated in order to fulfil the above goals, especially the broader objectives c - f. CFCS is a fully integrated programme which runs through Phase I, II and III. It provides the student with experiential learning in the holistic and multidisciplinary approach to patient care. It serves to supplement what is taught in the wards, through 'supervised' exposure to actual situations in the family and community.

In Phase I students acquire basic knowledge of psychology, sociology, epidemiology and medical statistics.

In Phase II students undertake community studies, identify the health needs of selected communities and carry out activities to resolve those needs.

In Phase III students should be able to:

a) identify specific health needs of patient and family (problem list); b) analyse these needs and construct a priority list; c) identify and assess factors (facilitative as well as inhibitory) in the family and community; d) review health resources available in the family and community to address particular needs; e) formulate and organise measures to resolve each identified health need; f) execute appropriate strategies to resolve each of these health needs; g) evaluate the results of the strategies in terms of patient's progress specifically, and family and community well being in general; h) develop positive attitudes and behaviour, and i) acquire communication skills in dealing with patients, families and community.

Implementation of CFCS

a) Selection of Patients/Families

Each student must select and follow up two patients from the ward to their homes and families. The first patient will be selected during the 1st block of Year 4 and followed up till the end of Year 4. The second patient will be selected by the 4th block of Year 4 and followed up till the 3rd block of Year 5.

Each of the patients needs to meet the following criteria:

a) interesting and with psychosocial implications: b) chronic in nature, requiring regular follow up, rehabilitation, or special coping arrangements; c) low social and economic background, and d) live within a reasonable distance (10 km) from the university hospital.

b) Time allocation

One afternoon per week is reserved for the programme from the beginning of Year 4 to the middle of Year 5.

c) Supervision

1) Clinical Supervisors. As CFCS is an integrated school programme it involves all departments and lecturers but especially clinicians. Every clinician is automatically a CFCS clinical supervisor with a minimum of ten students.

2) Group Supervisors. Group supervisors have a greater responsibility compared with clinical supervisors. Besides being clinical supervisors themselves, they are responsible for the successful implementation of the CFCS programme for their group of 15 to 20 students.

d) Contract learning/self-directed learning

Until recently, students followed their patients and families on their own with minimal supervision. Students were requested to consult their supervisor regularly, especially if they faced problems. Students also meet their peer groups regularly to share problems and share suggestions. Student activities were carried out on standard guidelines, and the students' reports also followed standard guidelines. This was found to be unsatisfactory.

Many students did not consult their supervisors adequately and thus occasionally gave misleading information to their CFCS families. The programme was not interesting for the students as it did not encourage novelty and active learning. The standard case reports on their patients/families were found to be stereotyped and boring to read, and the contents of the case reports indicated a lack of relevance to the CFCS objectives. Students tended to emphasize clinical objectives.

To remedy these defects, and in line with the school's philosophy to encourage student-centred learning, the CFCS programme adopted contract learning/self-directed learning strategies from the start of the 1986/1987 academic session. A contract is an agreement negotiated between students and their group supervisors on the learning goals/objectives they will achieve in the CFCS programme. Students will be free to identify their own learning objectives and how they will be implemented and assessed.

The individual student takes the initiative, with or without the help of others, in diagnosing learning needs; formulating learning goals; identifying human and material resources for learning; choosing and implementing appropriate learning strategies; evaluating learning outcomes.

Assessment

CFCS related questions will be incorporated into the medicine and surgery based Modified Essay Questions and oral examinations in the final professional examination. These questions are usually in Bahasa Malaysia and must be answered in Bahasa Malaysia. This is to fulfil the Bahasa Policy requirement. Students must also have fulfilled the prerequisites for CFCS.

Each student must negotiate with the group supervisor for each learning contract. The contract must be up to the satisfaction of the group supervisor. A satisfactory contract must fulfil the objectives of the CFCS programme. In order to prepare and complete a contract satisfactorily, each student:

a) must discuss with the group supervisor (G.S.) at least once with submission of a case summary; b) must discuss with G.S. at least once before the end of the learning contract; c) must discuss with G.S. at least once one week before submission of any project (presentation, fixed learning module, etc.); d) must discuss with the clinical supervisor at least twice per block, and e) must carry out at least four home visits before the end of each contract. The number of home visits will depend on each contract. Attendance at group discussion and presentation is compulsory. Students must attend at least 75% of the sessions. Students will also be assessed according to their contract. The evidence of achievement of learning objectives in the contract takes the form of reports, presentations, videotapes, etc. Different learning objectives may have different forms of assessment.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 133

Planning and Preparation for Innovation in Medical Education in India

P.S. Jain
Medical Council of India
New Delhi, India

Alex Zachariah
Christian Medical College
Ludhiana, India

Abstract

The Medical Council of India is an apex body established *by an act of the Parliament of India to be responsible for establishing and maintaining the standard of medical education throughout the country at all levels. The Medical Council of India units revised recommendation of 1982 made the medical education strongly community-oriented. The re orientation of medical education scheme, introduced by the Governement of India, further underlined the effort in India to make the medical education community-oriented and problem-based.*

However, implementation and monitoring of community orientation was far from satisfactory. After attending the biennial Network Conference in Maastricht in March 1987, four or five medical colleges are invited to experiment within the existing frame work with a community-oriented and problem-based curriculum. The faculty's and students' sensatisation and development to a community-oriented, problem-based curriculum is in progress. Details of such a proposed innovation is discussed in the paper.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 135 - S 136

Primary Health Care cannot be taught in a Vacuum

Abraham Joseph
Christian Medical College
Vellore, India

Abstract

There is a universal awareness that medical education needs to be need-based, community-based and problem-solving in nature. There are several examples of innovative programmes throughout the world which have demonstrated the effectiveness of such training programmes. While problem-based, self-directed learning has been successfully introduced in many institutions, only few institutions have introduced community-based teaching. This is partly because the institutions are not directly responsible for providing health service in the community.

This paper presents the experience of the Christian Medical College, Vellore, which in 1956 had established a field practice area for medical education. The department at present provides primary health service to a rural population of 180,000, an urban community of 20,000 and a tribal community of 10,000. All the components of primary health care, such as community participation, intersectoral coordination, accessibility of service and referral system, are demonstrated. The students from the first day of medical school till they graduate, learn from the primary health care programme by getting involved in its various activities.

In the first year their learning experience is primarily to make a community diagnosis and understand the influence of physical, social and biological environment on health. During the third year they gain skills in carrying out a morbidity survey, analysing the data, using appropriate statistical methods and in prioritising the health needs of the community. In the fourth year they use epidemiological methods in evaluating ongoing national health programmes and for carrying out community-based studies. Finally, as interns, they are responsible for providing primary health care by functioning as members of the health team at the various levels of the referral system - primary, secondary and tertiary. And also in the intersectoral activities such as women's group, community leaders and farmers meeting, creches, handicraft, animal husbandry and agricultural programmes.

Such a community-based, self-directed learning experience would not have been possible if the Community Health Department had not established a primary health care programme of its own. This experience emphasizes the need for every medical

college to have a good primary health care programme. It should be made as essential and important as the other facilities, such as outpatient clinics, wards and laboratories of a teaching hospital. Academic institutions need to be partners in the national health care development failing which primary health care will be taught in a vacuum and so become ineffective.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 137

A Four-Year Experience in the Coordination of a Community-Based Programme Implemented with the Health Care System

Leila M. Makhlouf
Suez Canal University
Ismailia, Egypt

Abstract

The "Health for All" slogan has a tripartite aim. Firstly, the schools of medicine should produce graduates capable of promoting health both at the community and the individual levels. Secondly, the health care system should share in the educational process through the provision of sites, and the actual participation of manpower in planning, training and evaluation. Lastly, community participation should be the driving force in achieving the foregoing.

In this presentation, a four-year experience in the coordination of a community-based programme is presented. Issues as the role of the ministry of health, its relationship with the school, as well as the role of the community are discussed.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 139 - S 140

The Psycho-Social and Bio-Clinical Curriculum in a School of Medicine

Hernando Matiz
Escuela Colombiana de Medicina
Bogotá, Colombia

Abstract

The ten year experience of the Colombian School of Medicine is evaluated. The students participate in clinical practice at all levels of the health service from the very start of their training. This facilitates integration between the basic and the clinical sciences and allows the students to be useful from the very beginning of their career. The emphasis is on the psychosocial model of health care.

Introduction

The Colombian School of Medicine, a non-profit foundation, was founded in 1977 to face the problems that affect medical training in Colombia. We took into consideration the curricula of other schools in the country and abroad and the dehumanisation that resulted from a purely technological training. We decided, therefore, to create a programme of studies that was not constrained by a biological reductionism that ignores the values and behaviour inherent in all human beings and that is permeated by a utilitarianism which distorts the noble goals of higher education. We deemed it necessary to design a programme of studies that would acknowledge our own social and cultural reality, as well as the ethnic components that make up our nation. We thus took into consideration the reality in which the professional will eventually apply his knowledge. Furthermore, we sought a closer link between medical education and the National Health System. This resulted in the birth of the Colombian School of Medicine, based on a bio-psychosocial conception of the human being as a whole and involving considerable emphasis on community orientation.The foundation staff identified three crucial aspects that required attention in the design of the curriculum. The first concerned the separation between theory and practice in traditional medical schools, as demonstrated by the total separation of the basic sciences and from the clinical sciences. The second aspect is

Requests for reprints should be sent to Hernando Matiz, Escuela Colombiana de Medicina, Calle 134 No. 12-55, Bogota, D.E., Colombia.

related to the gulf between ivory tower educational institutions, the health needs of the people, the resources available and the national health system. The third aspect refers to the dehumanisation of medical practice as a consequence of the technical and unilateral orientation that has been given to the teaching of medicine.

The Curriculum

The school offers a 12 semester course which is designed to train General Practitioners. The emphasis is on integration, the most frequent diseases, and the structure of the National Health System.

Cumulative learning is also concerned with the development of competences for prevention of disease and maintenance of health and life. Our objectives include the ability to understand health as a state of physical, mental and social well-being and not necessarily as the absence of illness.

There are three interrelated areas. The bioclinical area encompasses the basic and clinical sciences that are essential in training a physician. These sciences have been organised to give the student the theoretical foundation and to acquaint him progressively with actual practice from the very beginning of his training. During the first four semesters the student deals with all the aspects related to primary care (health promotion, primary and secondary prevention, early diagnosis, low risk problems). During the following two semesters the student becomes familiar with, and begins to work on secondary care (diagnosis, treatment and rehabilitation of moderately severe problems, ambulatory checkups). Finally, from the seventh semester on the student starts working in the field of tertiary care (diagnosis and treatment of severe problems, experience with handicapped and hospitalised patients). The psycho-social area encompasses psychological, psychiatric, sociological and anthropological elements that must be managed by the physician. This area includes epistemology and history of science which, throughout ten semesters, attempt to create a reflective, critical and historic sense in the student. The goal is that the future physician should go beyond the mere observation of the social and cultural determinants that surround scientific theory and concepts.

The third area, Community Medicine, includes the subjects and practical activities that support the existing relationship between the student and the communities. These studies allow the student to understand and manage the reality of villages with serious health problems in the widest sense. Under these conditions the student must assume the role of a health worker from the moment he begins his training. His experience in the community and the health system is thus live and direct.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 141

The New Mexico Experience: Ten Years Later

Stewart P. Mennin
University of New Mexico
Albuquerque, U.S.A.

Abstract

The introduction of a parallel track as a method of innovation and change from within a traditional medical institution has proved to be successful worldwide. The Primary Care Curriculum, a community-based, problem-oriented parallel track leading to the M.D. degree, seeks to graduate students who will enter primary care, work in medically underserved communities, and become lifelong learners. Recent data shows that at entry into medical school family medicine was the most preferred specialty among Primary Care Curriculum students, while non primary care specialties were the most dominant preference of students in the conventional track. A larger proportion of Primary Care Curriculum students who expressed interest in family medicine retained this career compared to students in the conventional track who initially expressed interest in family medicine. Three times as many Primary Care Curriculum versus conventional track students switched from specialties other than primary care to family medicine after completion of medical school. Postgraduate (residency) directors rated Primary Care Curriculum graduates' performance higher than that of conventional track graduates on two of eight areas surveyed: attention to health care costs and communication with patients. Primary Care Curriculum students performed better on clinical clerkships and on National Boards, Part 2. They performed less well than conventional track students on preclinical National Boards, Part 1.

The latest innovation in New Mexico is the Health of the Public programme which has expanded and extended the Primary Care Curriculum into the clinical years and postgraduate training. It was developed on the basis of successful field tested methods of curriculum innovation, faculty development, and the politics of institutional change. Key methods will be described. This new programme is fostering in its students the skills necessary for diagnostic and community development in the promotion of the health of populations. New alliances are being forged between the university and the health services sector.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 143 - S 144

Cooperation between Academic Institutions and Health Care Systems: The Christian Medical College, Vellore Model

Booshanam Vasanthakumar Moses, Abraham Joseph and Abel Rajaratnam
Christian Medical College Vellore
Tamil Nadu, India

Abstract

Dr. Ida S. Soudder, an American Medical Missionary, established the Christian Medical College Vellore in 1918 to train Indian doctors for service in the relief of suffering and for promotion of health. Today, with a capacity of 1500 beds, it trains 60 undergraduates, 88 postgraduates and a score of paramedical and nursing personnel. Christian Medical College has followed the policy of pursuing high technical excellence and skill in specialised fields and at the same time making them available to an increasing number of poor patients. To meet the needs of the surrounding village community, it started road side clinics which carried health care delivery into peripheral areas/communities. As this was not adequate to meet the needs of the community, it established two health care systems called Community Health and Development, and Rural Unit for Health and Social Affairs (RUHSA). The Rural Unit for Health and Social Affairs, and the Community Health and Development run a comprehensive health care, social and economic development programme. The health care programme includes preventive, curative and rehabilitative activities and is rendered through a cohesive health team of doctors, nurses and community health workers. Health education activities are organised through Mathar Sangams, Youth Clubs and village councils and in formal adult education. As development of health is interlinked with economic development, several economic development programmes are established. Activities for women include tailoring units, credit unions, cooperative milk production units, handicraft units and masonary training units. Agricultural activities like farming, animal husbandry and poultry farming are programmes for men.

In addition, they also run a number of workshops/courses for selected jobs like cycle repairing, automobile and two wheeler maintenance and repair. A number of health workers and health managers is also trained.

Over a ten year period, both units have proved to be a catalyst in bringing forth rural development. The health parameters in the area served by these departments have

improved immensely. Moreover, these health centers with sub centers have established a good referral system between the community and tertiary Christian Medical College Hospital.

These two units form the field practice area for the medical students and the curriculum gives ample opportunities for developing a strong rural/community-based medical education.

Christian Medical College and Hospital practises a three tier system consisting of the main medical college hospital (tertiary center) linked with two health centers each with its own sub centers. Moreover, these units cooperate with the governmental institutions in implementing National Health Programs. The Vellore Model demonstrates the feasibility, effectiveness and utility of having a three tier health care system attached to a medical college especially for community-based training programmes.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 145 - S 148

Acquired Immuno-Deficiency Syndrome - "Aids": A Challenge to Primary Health Care in Africa

Itai T. Mupanduki
University of Zimbabwe
Harare, Zimbabwe

Abstract

AIDS is more than just a disease or a health problem. It is a threat to social and economic development, to people in the most productive phases of their lives, to family life, to mothers and children, to entire cultures and populations. Most disappointingly, in Africa in particular, it threatens the developing PHC programmes because of Africa's unique socio-cultural economic status. It could be questioned whether money and manpower in Africa should be diverted from reducing infant mortality due to diarrhoea, malaria or diseases preventable by immunisation, in order to combat AIDS. There should be an appropriate allocation of resources, so that AIDS research and education programmes are set in a proper perspective vis à vis PHC programmes.

Introduction

Since Alma Ata, Primary Health Care (PHC) programmes have been steadily gaining momentum in Africa due five practical principles calling for equity, promotive, preventive, curative and rehabilitative approach, community participation, appropriate technology, and multisectoral approach. Measurable progress has been made in health education, promotion of improved supplies and nutrition, water and sanitation programmes, maternal and child health, expanded programme of immunisation, control of endemic diseases, and supply of drugs. In Zimbabwe, for example the 1987 PHC review indicated that health committees had been established in 90% of rural areas. These work in close collaboration with a health centre. 65% of the population is now literate. 71% of mothers now live within 8 km of a health facility, and 2/3 of all births take place in a recognised registered health facility. 79% of mothers know about oral rehydration therapy (ORT) and 59% have used ORT. 43% of rural homes had toilets, and 54% had protected water sources by

---

Requests for reprints should be sent to Itai Mupanduki, University of Zimbabwe, Faculty of Medicine, POB A 178, Avondale, Harare, Zimbabwe.

mid 1987. 67% of children are fully immunised. 60% of the essential drugs are now produced locally. Malarial and schistosomiasis programmes are underway. However, AIDS threatens to offset these gains in PHC. AIDS poses a unique problem, it's prevalence will continue to rise until adequate control measures are taken.

A Threat to Human Resources

WHO Central African research has identified a 2-6% seropositive prevalence in the cities with 20% of sexually active adults positive, and 0-1% seropositive in the rural areas. There is every reason for alarm. The Panos Institute report has warned that at least 1 million Africans will probably die of AIDS in the next decade, considering that 10-30% of HIV infected individuals develop AIDS within 5 years. WHO estimated that there are 2 million sufferers in Africa. These are people in their most productive phases of life, and their morbidity and mortality pose a threat to social and economic development. 30-50% of babies born to HIV infected mothers are also infected. Half of the infected die within one year, and the other half within 1-2 years. This means that tomorrow's manpower is also crippled. If AIDS is not controlled, the demographic pattern is bound to change drastically.

Trained labour is in short supply. The infected tend to be urban, young adults, more often of higher education and higher position in employment. They will be removed prematurely from productivity, and the impact on development will be disproportionately more severe than the simple numbers would indicate. AIDS will become an increasingly more severe strain on the health services. AIDS patients will take up more and more hospital beds, decreasing the already low health worker to patient ratio, e.g. there are only 1,200 doctors in Zimbabwe serving a population of 8.6 million. The time spend on other PHC activities, e.g. immunisation could become seriously compromised.

A Threat to Financial Resources

A single HIV screening test costs about US$ 5.00, yet the total per capita health expenditure in African amounts to US$ 1.75 per person. The cost of prevention, education, treatment and research has been estimated for some African countries:

Zimbabwe 5 years	=	US$	13	281	547	(1988-1993)
Mozambique 3 years	=	US$	7	219	480	(1988-1991)
Tanzania short term	=	US$	5	716	400	

Health costs are bound to increase due to rising incidence of opportunistic infections. The use of already scarce drugs to combat AIDS could threaten the Essential Drugs Action programme. It has been estimated that the cost of screening blood can add one quarter to the cost of blood transfusion services.

Threat to Social Stability

The historical forces which have affected health in Africa in the 20th century are also important. For example, one half of the world's 10 million refugees are African. War, civil war, lack of agricultural land, political insecurity, apartheid, drought and famine continually create new African refugees. This results in huge movements of people, breaking up families and escalating poverty. Zimbabwe, for example, has 44 000 displaced persons and Mozambique has 1.6 million. Under these conditions of poverty, prostitution is rife, and AIDS control is difficult. The despair of such harmless masses is likely to cause further economic and political upheavals in a continent already plagued by coups and counter coups.

The treatment and prevention of AIDS requires methods of management which are likely to clash with traditional societal norms of sexual activity. In communities, where polygamy and concubinage are normal cultural practices, prevention of AIDS is bound to run into problems.

Thus, even if WHO were able to overcome the political and material hurdles to the AIDS strategy in Africa, the question remains whether education could radically change enough people's behaviour, in order to alter the cause of the epidemic. The extended family system in Africa means that in most cases a few breadwinners support quite a sizeable population. In a society which is male dominated, where women lack sexual assertiveness, the same successful men support concubine families as well. Thus, if such pivotal people die the social implications can be devastating. The death of mothers is more than crippling in Africa, since a child without a mother is most probably doomed to die of neglect.

People with AIDS experience strong emotional responses to their illness anger, guilt, fear, and depression, when they come to grips with their fate. Mounting social isolation can contribute to a view of oneself as toxic, stigmatised and worthless; family members often withdraw from them out of fear of becoming ill or stigmatised themselves, or from a sense of powerlessness to reverse the dead end nature of the disease. Thus relations within the family, the community, and even in employment become seriously eroded.

Threat to Political Climate

The fact that Africa was suspected as the initial source of AIDS has assumed political dimensions, for example victimisation of African students in China for fraternising with Chinese girls. Some European countries warned their nationals against visiting certain African countries. Yet some African countries depend on tourism for badly needed foreign currency. Students visiting countries such as India, the Philippines, South Korea and China must carry documents to show that they are HIV negative if they wish to stay for more than 12 months. Racial stigma could seriously affect Africa's effort in international commerce.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 149

The Role of a Faculty of Health Sciences during the 21st Century

Peter Mokua Nyarang'o
Moi University
Eldoret, Kenya

Abstract

The paper discusses the traditional role played by most Faculties of Medicine. This includes giving an academic education to a few people in order to enable them to primarily diagnose and treat diseases; advise and counsel the sick as well as carry out research. This restrictive view has resulted in the production of doctors who are "medicine" oriented and unable to address the wider issues of health. Established Faculties of Medicine have been slow to respond to the inadequacies identified. The dangers of this inflexibility are stated.

The paper discusses the need for Faculties of Health Sciences to produce appropriately trained doctors that meet the needs of defined communities while being able to function as scientists and critical thinkers. Faculties should also identify themselves with the needs of their countries as well as those of individual communities. This would make these communities participate in the care of their own health. The faculty should provide service to the community and not use the community as a mere laboratory for learning. The faculty should determine when most of the objectives in a community have been met and while moving on, leave the community to maintain its own health. Finally the faculty should produce doctors who are life long learners especially through operational research.

The presentation concludes with a discussion on how such doctors might best be produced and cautions about the impending exsanguination of the health profession if it does not respond to the needs for the next century. Problem-solving approach is identified as an effective vehicle for fulfilling this need.

Evaluation of the Effectiveness of Illiterate Market Agents in the Provision of Primary Health Care in Ibadan City, Nigeria

Maria Odegbaro
Suny Downstate Medical School
St. Albans, Queens, U.S.A.

Abstract

The purpose of this study is to determine the effectiveness of illiterate community-based market agents in the provision of primary health care services.

A random sample of 225 adult male and female subjects were trained and a pretested questionnaire was used to assess the performance of 20% of the selected subjects. On the curative element of primary health care, 8% of the trained agents were cognitively unable to manage malaria. 33% of the agents gave inaccurate therapeutic regimen for the preparation of oral rehydration solution. The proportion of the agents having excellent knowledge of family health and planning were 35%, while 50% had average score and 20% failed.

On immunisation schedule, 98% of the adult were aware of its protective effects; 40% of the agents remembered the specific diseases which are receptive to the immunisations.

The community-based distribution scheme is advantageous in ensuring that primary health care workers follow-up their clients and provide referral services.

In view of the paucity of highly skilled physicians in Nigeria, efforts should be made to train more market agents ensuring that they routinely attend refresher courses to reinforce and augment their knowledge of primary health care.

Annals of Community-Oriented Education
1990, Vol. 3, S 153

Drug Habits of the Rural Community within the Concept of Community-Based Medical Education and Services Programme in Kano State of Nigeria

Ayoola Olatunde and Lawal Alhassan Bichi
Bayero University
Kano, Nigeria

Abstract

Between October 1986 and July 1989 the students in the faculty of medicine had interactions with six different rural communities in Kano State in the pursuit of community-based medical education and a special programme of Bayero University Medical School.

The drugs taken by the people for various medical complaints and for social reasons could be classified as follows:

1. *Orthodox western e.g. aspirin, paracetamol, chloroquine, ampicillin;*
2. *Traditional e.g. anti-snake bite, psychotropic anti-gonorrhea;*
3. *Spiritual/religious: anti-evil spirits, anti-bad luck, anti-madness;*
4. *social: cigarette, kolanuts, alcohol.*

Factors that influence the drug habits of the community include availability or otherwise of a general hospital, health centre, traditional healer spiritual/religious teachers/healers, patent medicine stores, and drug pedlars. The influence of socio-cultural and religious beliefs is also significant.

The impact of the faculty community-based medical education and special programme on the health facilities and consequently on the drug habits of the community we have interacted with, will be assessed in the presentation.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 155

The University of Maiduguri Teaching Hospital Experience

M.K.O. Padonu and Bashir Umar
University of Maiduguri
Maiduguri, Nigeria

Abstract

Wide gaps which exist between health care systems and academic centers in most countries could be bridged by useful dialogue and participation of academic centers in health care systems. The University of Maiduguri has taken bold and far reaching steps towards this ideal. The Institution's Department of Community Medicine has been involved in giving technical assistance to a Model (PHC) Local Government Area (Konduga Local Government Area). Since 1986, the University of Maiduguri Teaching Hospital has helped the Local Government in setting up primary health care delivery system and in step by step implementation of the services.

Initially, research was conducted in the area to analyse the health situation. This was followed by an extensive survey of the area to gather base line information on morbidity and mortality rate, pattern of diseases, utilisation of health facilities, age and sex distribution of the population, fertility rate, educational level of the community, etc. These facts formed the basis in formulating a programme. The programme was jointly drawn by the University of Maiduguri Teaching Hospital, the Konduga Local Government and the Borno State Government. Implementation of the programme started after the budget was approved. Being partners both tiers of Government and the University of Maiduguri Teaching Hospital are part of the primary health care implementation committee whose meeting is held monthly.

Presently, medical students and community health officer students engage in research activities and health education as part of their rural health experience in the Local Area. In addition, a resident doctor from the Teaching Hospital is available in the Local Health Centre to treat and refer cases.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 157 - S 160

Developing Appropriate Medical Manpower: A Philippine Experiment

Arturo M. Pesigan and Ruben N. Caragay
University of the Philippines
Manila, The Philippines

Abstract

The majority of doctors educated in The Philippines go abroad or work in the nation's urban centres. In 1988, the Community Medicine Foundation embarked on an alternative residency programme in community medicine. Residents are trained in public health and clinical skills, partly on the basis of academic "blocks" offered by the University's College of Public Health. The paper discusses the content of this 2-year curriculum and methods of evaluating progress.

The Problem

Twenty medical schools produce many new physicians annually, but 45% go abroad. Of the remaining 55%, a large proportion practise in urban centres. Only a few practise in areas where more than 70% of the population live. Thus, the physician to population ratio is 1 : 6,413, when it should be 1 : 1,000.

Why is there such a problem? The educational system in medical schools is a factor. It has been characterised as commercialised, elitist, and western-orientated. It is commercialised because many medical colleges are profit-orientated. This results in high tuition fees disguised as donations to be given before a student is accepted for the medical course. It is elitist because only those in the upper income bracket can afford the cost of medical education.

It is western-orientated because the content of the course is derived from American and European books. The education is thus not relevant to the health needs of the majority of Filipinos. In order to recoup his expenses in medical school, a doctor usually specialises. He goes into residency training in a hospital in an urban centre or abroad. He then establishes his practice in areas where he can earn much or develop further,

---

Requests for reprints should be sent to Ruben N. Caragay, University of the Philippines, College of Public Health, Manila, The Philippines.

not in rural areas where patients cannot afford his services and where sophisticated technology is unheard of.

Some Solutions

The government embarked on a programme making it compulsory for graduates, to practice in rural areas for six months, while waiting for the results of the licensure examinations. There were many problems. Some were related to the inappropriateness of medical training to the actual needs of the people. Many graduates were not challenged by the problems in the villages. They wanted to manage cases they had read about during their medical school days. They did not know how to handle the simple problems in the countryside. Other problems were cultural. The graduates were unable to adjust to the slow and seemingly unexciting rural life. The government now makes rural service optional, and only a few volunteers try it out.

The step-wise career development through progressive education of the University of The Philippines Manila, Institute of Health Sciences in Tacloban, Leyte suggests another approach. A student is chosen by his community, he participates in classroom learning and returns to his community from time to time to apply what he has learned. He can stop at several steps on the ladder. He can be a health worker, he can go on to become a midwife, he can move further up by becoming a nurse and a community nurse. Finally, he can become a doctor, take the medical board examinations, and return to his community. The pilot programme shows some promise and is being evaluated.

An Alternative

In 1986, ten medical graduates banded together to establish the Community Medicine Development Foundation, Inc. (COMMED). They undertook a four months integration, training and practice exposure programme. They affiliated with community-based health programmes sponsored by non-government organisations in various parts of the country. Collective experience from the programme made the group realise the inadequacies of medical graduates to meet the health needs of people in rural areas.

Based on their experiences and consultation with community-based physicians, other health workers and key persons from educational institutions, the members of COMMED identified the following problems: the inadequacy of medical education in dealing with the health problems of the country; the need for continuing upgrading of knowledge and skills of physicians in community-based practice, and the need to support educationally physicians who are actively involved in community-based medical practice. Thus, a curriculum for an alternative residency programme in community medicine was developed.

The Residency Curriculum

The programme aims to train community-based physicians to be strong advocates of community medicine and who promote the health of the Filipino people. To become a community-based medical practitioner, the resident would need to acquire knowledge, skills and attitudes for comprehensive health care of populations, rather than individuals. The new type of physician would have to "diagnose" the health needs of populations and would have to design programmes that improve the level of health of the people, not just in a hospital setting, but in the community itself. The trainee will need to acquire knowledge of the basic sciences common to all branches of community medicine: epidemiology, biostatistics, and public health administration as they apply to community health concerns. In addition, the physician must have a strong background in the principles of the social sciences (medical anthropology/sociology) and traditional medicine. The programme must not only emphasize preventive and promotive aspects of health care, but it should also recognise the curative/rehabilitative aspects by upgrading the clinical skills of the trainee.

The practical application of community medicine must, therefore, cover public health, traditional medicine, applied epidemiology, health policy, as well as occupational and environmental health. At the end of the training, the physician will be able to engage in a number of careers: community-based medical practice, administration or management of a community-based health programme, general practice with skills in traditional medicine, public health practice, field epidemiology, teaching of community medicine in a medical school, assessment and control of occupational and environmental health problems, or research.

Method

The residency programme covers two academic years. The trainee spends a great deal of time in field practice. He is affiliated with a community-based health programme which cares for poor communities. The schedule follows a cycle consisting of 8 weeks field practice, followed by 3 weeks in an institution participating in clinical courses. During the second year, blocks consist of clinical rotations in hospitals under the supervision of clinical consultants.

During field practice, the resident is expected to apply the skills he has learned in the institution. During the two years' affiliation with the community based health programme, the resident is expected to act as consultant in programme management, as medical consultant in community clinics, and as trainer for staff development and community health worker training programme.

Assessment

Field practice is evaluated through a community based evaluation system. Programme coordinators of the CBHPs are asked to submit written performance assessments of the trainees. Field coordinators visit the communities and assess the performance of the residents on a regular basis. The classroom and clinical training is assessed through pre- and post-tests to determine the specific areas of weaknesses/strengths of the residents. There are three levels of assessment: self, peer, and preceptors/lecturers/resource persons.

Progress of the Programme

In January 1988, the COMMED Foundation started its two year training programme with nine physicians assigned to CBHPs in seven rural areas. In the academic blocks, the Department of Community Health of the University of the Philippines College of Public Health offered "Short Courses in Community Health Practice". The physicians were able to complete a total of five short courses and six field practice blocks. In January 1989, these physicians started their second year of training consisting of the practice and clinical rotations. The training programme has been well accepted by most of the community-based health programmes. Because of the contribution of these physicians to the health care delivery system in poor communities, the COMMED Foundation has received numerous requests from all over the country to send physicians to these areas.

The Future

The COMMED Foundation is conducting campaigns in medical schools to offer the training programme as an alternative to existing hospital based residency training. It is also studying the medical manpower needs of health programme in depressed urban and rural areas of the country. At the same time the Department of Community Health of the University of the Philippines is studying the feasibility of offering the programme as a regular course of the College of Public Health. In the meantime it continues to conduct short courses on community health for interested physicians.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 161 - S 165

The Negev Project: Continuation of the Beer Sheva Experiment in Medical Education

Basil Porter
Ben Gurion University of the Negev
Beer Sheva, Israel

Abstract

A medical school was established in Beer Sheva in 1974 to answer the need for directing medical education towards the community. Milestones in the development of the community orientation of the school included early clinical exposure within the curriculum, the establishment of a Division of Health in the Community and the introduction of two primary care clerkships. The Negev Project, initiated in 1979, aimed at integrating the educational agenda of the school into a programme for improving primary health care services in the Negev.

The initial phase of the project aimed at creating a number of model clinics. The second phase of the project aimed at improving the quality of physician performance through the introduction of Beer Sheva Medical School graduates into these clinics. Improvements in the delivery of primary care that resulted included improved patient scheduling and patient records, improved clinic-hospital communication and the introduction of successful programmes in health education. However, ten years later, the true impact of the project is uncertain.

Introduction

In 1979 a Project was initiated in the Negev area of Israel aimed at improving the level of primary health care to the community. The project was initiated by the Ben Gurion University (BGU) Center of Health Sciences in cooperation with the major health provider in the area, Kupat Holim, and funded by a philanthropic funding agency, the Joint Distribution Committee (JDC). The reasons for initiating the project were twofold. First, the perceived low quality of health care in the community relative to the hospital and second, the specific problems of the Negev, including geographically isolated communities and the underdevelopment of the area relative to the centre of the country.

Requests for reprints should be sent to Basil Porter, Health Science Center, Ben Gurion University of the Negev, POB 151, Beer Sheva, Israel.

Background

The Negev Project was initiated at the time that the first class of the BGU Medical School was approaching graduation. The School had been established in 1974 to meet the need for "A different quality of physician, a new type of education for physicians and a commitment to substantive and basic transformation of the structure of medicine in the Negev". From the start, the curriculum of the new School showed its community orientation through three main innovations. First, selection of students based on personal-social, as opposed to pure academic, criteria. Second, the exposure of students to clinical settings in the community from the first day in the School. Third, the introduction of primary care clinical rotations in community primary care clinics. The commitment of the school to improving the delivery of health care was expressed in the motto "All who serve teach, all who teach serve". The idea was that all involved in the provision of services, physicians and non-physicians, would participate in the educational goals of the School, and that all Faculty members would be actively involved in the provision of services. With the approaching graduation of the first class of the School, it was clear that the environment of the primary care clinic in the community was not conducive to encouraging the graduates to pursue careers in the community. The Negev Project was thus conceived as a means for developing high quality, replicable models of primary care in the Negev.

Implementation

The first stage of the project aimed at establishing a number of model clinics through the addition of physicians, nurses, social workers, health educators and family planners to cover all the needs of a community health service (Porter, 1987). The other major goal was the integration of preventive and curative health services, traditionally provided by institutions in separate and different facilities. At the end of the first year of the project, it became clear that this formula of adding services would not produce the desired results, and the focus of the project was moved to the graduates themselves. The graduates were invited to spend a year of service in selected clinics following their hospital-based internship year. The graduates were included as participants in a process of deciding what changes were essential in the clinics to enable them to practice high quality medicine, and they were promised a stipend to help them cover the costs of their studies.

Laboratory and X-ray facilities were improved, and on-site consultation was provided by hospital sub-specialists. In addition, a weekly continuing education day geared to the graduates' needs was included in the year's experience.

Results

Improvements in health services. A number of significant improvements in health services occurred during the project. These included improved patient scheduling, improved hours for clinic services, improved function of the health care team, improved liaison with the hospital, integration of social workers into the primary care settings, and the initiation of a number of innovative community outreach programmes.

Participation of graduates in the programme. From 1981 to 1988 (the first eight graduating classes of the medical school), 76 of 297 (25%) graduates participated in the project; 68% of the first class and 49% of the first four graduating classes participated. A progressive fall off to 10-20% occurred during the last four years.

Effect on the graduates. Four main reasons were given for entering the project: 1) a desire to learn more about the practice of primary care; 2) a desire to work "independently" before entering a formal residency programme; 3) identification with the goals of the Beersheva medical school, and 4) the need to serve in the project as a means of ensuring placement in a desired residency in the future.

Most graduates expressed satisfaction with the project, stressing the importance of the opportunity to practice medicine outside the hierarchical system within the hospital. Even the most critical graduate stated that the experience had helped her learn "to make decisions in isolation", despite feeling that the year had done little to shape her future in medicine. Other graduates were more enthusiastic: "This was the year that made me a physician. I felt this was the bridge between being a student and being a physician". Five years after his year in the project, he still felt the impact of how the experience showed him what it means to be a doctor and the nature of a community. He also stressed the importance of confronting the "non-medical" side of medicine: "I sent an old man with an incarcerated inguinal hernia to hospital, against the wishes of the family, who opposed the surgery for religious and economic reasons".

Most have expressed interest in being involved in primary care in their future careers. However, few have chosen family practice as their residency track, with most choosing internal medicine or paediatrics, with demands to increase the primary care content in these specialties.

Discussion

Despite the changes introduced in the health services and the generally positive evaluation of the programme by the graduates, a number of key objectives of the project were not achieved. Integration of preventive and curative services did not take place. Ongoing reproducible changes did not occur in many of the project clinics. Fewer graduates have entered careers in primary care. Little attention has been paid in the literature to the goals of an internship, other than the diffuse goal of practice experience; though some experiences with an internship in primary care have been described in the British literature, such efforts have also suffered from a lack of clear objectives (Harris et al., 1985).

There were many reasons why the Negev Project did not fulfil all its expectations. The initial objectives of the project were unrealistic and not specific enough. This allowed participants to interpret the objectives as they saw fit. Strong endorsement of the project was lacking from the Kupat Holim leadership. The establishment of an independent body to monitor the project allowed the leadership to bypass major decisions related to changing health services, and left the project director with the major responsibility for implementation. Front-line support was not recruited in the planning stages, resulting in much resentment from clinic staff who were expected to implement decisions to which they had not been partners.

The Medical School faculty support was not broad-based. Despite strong support from the dean and a number of his colleagues in primary care, the majority of the Faculty were never fully aware of the goals of the Project and its significance. House staff at the hospital were similarly ignorant about the project. They would frequently attempt to influence new graduates not to participate in the project, suggesting that they should enter hospital-based specialties "without wasting a year in the community clinics".

However, the contribution of all these factors to the problems of the project were probably small compared with the influence of the rapidly changing environment of the medical profession, changes in values and in direction of medical care in Israel. Private practice began to develop rapidly as an answer to the low salaries of the Israeli physician. The emphasis on money as a career goal affected specialty priorities. Dermatology, plastic surgery and ophthalmology became the most desirable specialties, with internal medicine, paediatrics and family practice decreasing in popularity. In this environment, a year of pioneering service in underserved areas became a low priority. In addition, few graduates wished to remain in the

Negev for an additional year, when the trend was to settle in the centre of the country. **The Negev Project proved that the process of change in the health services cannot be accomplished through manipulations of medical curricula alone.** Medical education is just one facet of a complex set of issues influencing the delivery of health care. Medical educators will have to spend more time sitting with politicians, economists, sociologists and the consumer of health services if they wish to maintain their relevance to high quality health care delivery.

References

Porter, B. (1987). The Negev primary care project: the practical continuation of the Beersheva experiment in medical education. *Israel Journal of Medical Sciences, 23,* 1088-1092.

Harris, C.M., Dudley, H.A.F., Jaman, B., & Kidner P.H. (1985). A pre-registration rotation including general practice at St. Mary's Hospital medical school. *British Medical Journal, 290,* 1811-1813.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 167 - S 171

The Health Care System: A Non-Governmental Medical College Approach

Ved Prakash, R.K. Sachar and R. Sehgal
Dayanand Medical College
Ludhiana, India

Abstract

In India an extensive network of hospitals, primary health centres, and sub-centres exists in each state to provide specialised and primary health care. In spite of such extensive networks the health profile of the population and its health care indices present a dismal picture. A similar situation exists with regard to the orientation of medical students towards rural/community care.

Dayanand Medical College has initiated a new approach to providing health care to some villages as well as to imparting community orientation. The method is based on a folder system which provides demographic and health profiles of village populations. It includes MCH services with special profiles of children under 5 years and pregnant women.

Services are provided by a two way referral system from village health post to health centre and hospital. The data will provide a base line, and relevant changes are added every 2 months and annually. This approach will provide an comprehensive profile of village health care, together with the use made of hospital services. This approach will in turn enable medical students and interns to become orientated towards rural communities.

Introduction

The present estimate of the population of India is about 800 million of which 77% reside in 412 rural districts.

India has a sizeable health infrastructure in terms of quantity:

Request for reprints should be sent to Ved Prakash, Dayanand Medical College & Hospital, Department of Social & Preventive Medicine, POB 265, Ludhiana, 141001 Punjab, India.

Hospital beds	58,589
Primary Health Centres	14,409
Sub-centres	102,160
Community Health Centres	1,293
Multipurpose male workers	84,993
Multipurpose female workers	107,593
Village Health Guides	392,344
Dais (Midwives)	558,919

This infrastructure, together with the large financial investment and expenditure, is not commensurate with the results achieved.

Vital statistics present a dismal picture:

Birth rate	32.4 per 1000
Death rate	11.1 per 1000
Infant mortality rate	95 per 1000
Under 5 mortality rate	154 per 1000
Perinatal mortality	5 per 100
Immunisation	50 % to 60%
Children with birth weight below 2500 g	35 %

A survey carried out by the Indian Council for Medical Research on nutritional status (1974 - 82) showed that over 40% children under 5 were suffering from moderate to severe malnutrition.

The problem is further compounded by the fact that the use of this huge infrastructure is poor, particularly in rural areas. The zone of influence of the Primary Health Centre and sub-centres is confined to some of the villages only. Communicable diseases remain rampant. The incidence of tuberculosis has remained the same for the past 40 years.

In short, health statistics demonstrate a deplorable state as far as mortality, morbidity, and nutrition are concerned. Population growth rate has remained constant at over 2% per annum during the last three decades. A peculiar paradox exists in urban areas. While metropolitan cities have most of the hospital beds and the latest technology, district hospitals are woefully lacking even in the simplest diagnostic facilities. There is a distinct distortion of effort and facilities, and the funding priorities tend to neglect the poorest.

This profile causes a great deal of concern to planners, administrators and politicians. One of the reasons for this situation, in addition to the administrative, social, lackadaisical approach and economic constraints, is a lack of well defined direction and method in the implementation of health care delivery.

Any health care delivery system should consist of three inter-related elements: service, training and research. Absence of any of these elements leads to sub-optimal performance. A health care delivery system entails identification of problems, allocation of priorities and assessing the needs of the community, meeting these in a manner acceptable to the community, at an affordable cost, and measuring the impact concurrently and terminally. Such evaluation requires measuring recording and comparing levels of achievement and rates of progress.

We have adopted a system which includes these aspects and which enables us to provide primary health care to the urban poor as well as to rural areas and to train our undergraduates and interns in community settings. The system is flexible and can be used by village health workers, medical officers at health centre level, and research workers interested in public health problems.

The system has built-in methods of evaluation, and mid-course corrections can be made.

Method

The method consists of monitoring the demographic and health profile of the community. The family is taken as the main biosocial unit. The data are recorded in a family folder which contains information on the demographic profile of the family, social/economic status (income level), housing, basic environment facilities, water supply, literacy, and immunisation status.

Special emphasis is given to the identification of new pregnancies, provision of antenatal care, and care of children under 5. A separate card is made out for each couple, pregnant mother, and each child under 5.

Couple: age, previous pregnancies and outcome, child spacing and method of contraception used/advised.

Pregnant mother: age, parity, previous abortions, antenatal visits, immunisation, nutritional and other details.

Child under 5: age, nutritional status, growth chart, and immunisation profile.

In addition, each pregnant mother and child under 5 are classified in a High Risk / No Risk Profile by a set of guidelines which can be used by health workers. Information about the health of individuals can also be recorded. The information collected in the folder is compiled into a master register. For each village a separate register is made. In urban slums similar, separate registers are made for 500 families or a localised area.

Baseline data provide a complete profile of a village/slum: Population (age and sex), number of families, average family size, children below 5, immunisation status, couples and family planning status, tubectomy, vasectomy and IUD.

Summaries of information in all these sections are compiled monthly, quarterly and yearly which helps in framing the strategy for subsequent action/approach. Additional information can be obtained from folder/register as required.

Maternal services. Whenever a pregnancy is identified, a special card is placed in the family's folder. Also a separate entry is recorded in the special section of the master register according to the month of expected delivery.

The pregnancy is classified as high risk or no risk, and relevant details are recorded.

Child services. Similarly, a card with risk profile is made, and the details are recorded in the relevant portion of the master register.

Couples. In this section details of all couples with their family planning status are recorded.

Visits. Every family is visited once in 6-8 weeks; high risk individuals are visited more frequently. Before a visit the health worker reviews the master register and, on the basis of the folders, identifies the problems of the family.

Health education and motivation. Health workers advise the family about nutrition, breast feeding and immunisation. If pregnancy is detected, the process of antenatal care and protection with tetanus toxoid is commenced. Those requiring family planning services are motivated according to needs and personal choice. Health workers also take care of illness in the family and refer patients to the health centre. Each health worker is visited by a medical officer once a week, when her work is assessed and she can refer the family/individual to the medical officer. In between, if there is any problem, patients are encouraged to come to the health centre. In each case the information is recorded in the family's folder.

Referral. In addition to a two way referral system from village health post to health centre and to the teaching hospital, the health centre is visited once a week by specialists in internal medicine, paediatrics, obstetrics and gynaecology, and ophthalmology.

These visits not only provide services where they are needed, but help interns/ students to analyse problems and treat in the community setting.

Training. Students and interns are posted to urban and rural areas and allotted to a village or a group of families where they study demographic profile, immunisation profile, pregnant women and follow up, percentage of children under 5, growth chart of children under 5. They will also investigate birth rate, mortality rate, infant mortality rate, mortality rate for children under 5, low birth weight infants, maternal mortality, attendance at birth, water supply, housing, literacy rate, food consumption, family planning indicator, eligible couples for tubectomy, vasectomy, and IUD. Interns visit the family on their own or with the health worker and follow the family during their stay at the health centre. They are exposed to the community in its own settings and learn to observe and analyse problems and suggest or implement interventions. They are allotted projects for which they collect data under the supervision of the Medical Officer. In this way the interns acquire basic knowledge of the methods involved in community research. They also visit schools and deliver health talks to teachers and school children. In addition they learn to practice clinical medicine unaided by diagnostic facilities but backed up by the two way referral system.

Achievements. In the span of one year, since the introduction of this approach, baseline data have been obtained for the population of five villages. In the near future the changes discussed in earlier pages will be recorded and incorporated on an ongoing basis, and an attempt will be made to analyse changes in the health profile. The main achievement thus far has been the training of undergraduates and interns in the community.

Lacunae. Health is an intersectoral affair, where development in other sectors is of vital importance. These developments and interventions are the responsibility of government agencies, over which a private organisation like ours has no control. Inspite of best efforts to coordinate, much is left to be achieved as far as intersectoral development is concerned.

Organisation. The approach is being implemented, with overall control by the Department of Social and Preventive Medicine, Dayanand Medical College, by a health centre at the central village, and four health posts. Each health post is manned by a health worker, and the health centre by 2 Medical Officers, 1 Laboratory Assistant, 1 Nurse Supervisor, 4 Nurses Midwives, and 5 Health Post Nurses.

Summary

Tthe three elements health care service, training, and research have been tackled through this folder system. By reviewing the folder and master register high risk families are identified, and intervention through health education, nutrition and treatment is instituted. Frequent repeat visits are made until the family is no longer at high risk. In this way excessive morbidity and mortality are avoided, and the quality of life is improved.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 173 - S 174

International Aspects of Governmental and Academic Health Centre Relationships

Moshe Prywes
Ben Gurion University of the Negev
Beer Sheva, Israel

Abstract

A review of government and academic health center relationships in different countries is presented. Is the government really the kind of a dragon or, at the very least, a 'malum necessarium' which many of us imagine? Is its chief and continuing interest to undermine the basic values of academic freedom? Is it not quite often led by academic politicians to penetrate too deeply into our sanctuarium? Can it by virtue of its legal and moral responsibility to the taxpayer sign the checks without controlling underwritten activities? Is it completely ignorant of the real needs of society in health and education and devoid of any competence to have its own intelligent opinion? Does it really demand full control, even when providing full support?

And now let us turn to our academic health centers. Are we really the settings of freedom and democracy which we pretend to be? Did the autonomy of free or private universities spare them revolt of students and young faculty? Don't we have other, more direct and intrinsic targets in our fight for better health and education than the government? Are we apolitical and unbureaucratic in our service to science and humanity? Have we succeeded in elaborating ways and means for better distribution of funds and control systems of our own financial outlays? Do we support ourselves or our students without applying an elaborated control system? Do we have the monopoly not only in producing science and educating young people, but also in knowing better how to apply all that in modern society?

Straight answers to all these questions may ultimately simplify a complex situation. However, with some of the answers in our minds, we may become less passionate and more reasonable, in both our complaints about and our demands toward our governments.

We cannot anymore escape the public and its main representative, the government. It is in the middle of all our affairs and we are actually condemned to coexist and interact in order to survive.

It could be, however, a disgrace for both medical education and government when

circumstances prevailing in one country or another tend to separate education and service. Actually, academic health centers have many faculty members and students who are deeply involved in assessment of needs and implementation of programmes. Similarly, one can find within the government many progressive and impartial politicians who are preoccupied with safeguarding high-standard academic performance.

In the coming years, we may be called not only to educate future physicians, but also to enlarge our educational scope to reach state officials and consumer spokesmen, so that they will not come just to tell us "here is your job and your money".

Transforming our academic health centers into a cooperative venture involving the students, professors and the government, is a realistic challenge for the end of our century.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 175 - S 182

Is there a Role for Academic Institutions in the Primary Health Care Leadership Crisis? The Gezira Experience

Ibrahim M.A. Rahim
University of Gezira
Wad Medani, Sudan

Abstract

The Gezira Medical School in the Sudan has addressed the lack of involvement by physicians in the primary health care programme.

The School's dialogue with the Ministry of Health and led to revision of doctors' job descriptions during their rural assignment; the rural hospital becoming the focus of leadership and support for surrounding primary health care units; and a short training programme in primary health care orientation and health programme management for physicians. Since the start of this programme, doctors have shown new positive attitudes towards primary health care. This had led to the adoption of new national policies for decentralised rural health service based on the establishment of defined health areas around rural hospitals which are run by management teams, headed by doctors.

Introduction

The global adoption of the primary Health Care (PHC) approach represents a milestone in the history of medicine and medical care services. It confirmed for the first time health as a basic human right and put health on the political agenda for which coordinated international action was called for. The inherent risk in such declarations is that they may remain no more than a nicely worded expression of good intentions with widely conflicting interpretations of goals and meaning. This danger was evidently clear to those who formulated the Alma Ata declaration when they defined eight elements for PHC. A decade of experience proved this to have fallen short of providing a definition of the minimum measurable level of care for which the signatories of the declaration could be held accountable. What level of

---

Requests for reprints should be sent to Ibrahim M.A. Rahim, University of Gezira, Faculty of Medicine, POB 20, Wad Medani, Sudan.

health will be attained by the year 2000 was literally left open to interpretation, while how to attain this goal has kept WHO busy with no conclusive answers.

Health professionals were left with a poorly understood concept, backed by doubtful political commitment and a universal underestimate of the tasks involved in the achievement of the goal of health for all. There are three facts which, more than others, illustrate this underestimate or lack of commitment to PHC. The first is the persistence in most countries of health service organisational and administrative structures prior to the adoption of PHC, and the absence of evidence for attempts to adapt these to the new policies. The second evidence is the absence of serious budgetary changes or resource reallocations to match the new priorities set by the PHC goal. The third is the universal failure to involve doctors substantially in the PHC programme or to define a role for them in it. The significance of this is further emphasized by the fact that most PHC programmes suffer from weakness in supervision, support, local planning and management. This almost amounts to what could be called a leadership crisis.

Medical schools have the credibility and technical capabilities which, if used responsibly, could influence and change professional thinking and attitudes towards PHC. These tasks go beyond the traditional roles of medical schools and amount to a new relationship of true partnership which would commit the technical resources of academic institutions to assist in all aspects of service delivery. This assistance would include the formulation of appropriate policies, the revision of organisational and administrative structures, the planning of new activities, and the introduction of new skills and technologies.

The Background of Gezira Involvement

The Gezira Medical School, since its inauguration 13 years ago, has based its programme on commitment to community accountable medical education. An intimate relationship with the health delivery system was clearly defined in the school objectives: 1) to train and graduate doctors who have sound scientific knowledge, skills and attitudes to meet the health needs of individuals and communities in the Sudan; 2) to initiate and promote research in priority health problems, especially those facing rural communities in the Sudan, and 3) to participate actively in the provision and promotion of health services at all levels.

In 1982 the School studied the problem of lack of involvement by doctors in the PHC programme, particularly in rural areas. The study identified three major causes: 1) lack of orientation and skills relevant to PHC among doctors; 2.)inappropriate organisational structure in the health service, and 3) inadequate manpower policies in support of the PHC approach.

A description of the background and factors relating to these causes is given below.

Lack of Doctors Orientation in PHC. Medical schools have a long standing history of bias against public health, and their curricula reflect clear favouritism for clinical disciplines. The rewards of clinical medicine, including the patient-doctor relationship and the advantages of finance and prestige are extremely appealing to the student. This bias is reinforced by trends towards super-specialisation and emphasis on successes of high technology hospital based medicine. At the same time the teaching of PHC suffered from the negative attitudes toward public health and the misunderstanding of its concepts and the underestimation of its significance by teachers of public health. PHC was assumed to be a new name for the messages and interventions of preventive medicine, and, in most instances, its courses were loads with epidemiology, biostatics and environmental health. Little effort is focused on an understanding of the basic concepts or on learning the practical skills essential for PHC. What is even more important is the absence of tutoring to enhance the development of attitudes and behaviour that are necessary for future PHC leadership roles. At present most medical schools have insufficient or inappropriate primary health care training in their undergraduate curricula. The situation is made worse in the Sudan by the fact that more than half the doctors in the country were trained in countries with different sociocultural backgrounds, and different health problems and priorities.

After joining the service in the Sudan these doctors are not offered further training in PHC, as almost all the investment in PHC training goes to the training of village and mid-level health workers. At the time of its initiation it was assumed that PHC had nothing to do with the main body of doctors and there was a simplistic assumption that training thousands of village level community health workers would, by itself, be the final low-cost solution to the chronic problems of health manpower. Thus, as a result of their undergraduate background and work experience, the majority of doctors lack orientation in PHC and its various related skills and attitudes. This, by itself, became an important reason for their lack of interest or involvement in PHC programmes.

Problems of Manpower and Related Policies. Since the mid-sixties the drive towards specialisation among doctors took a spiralling course in the Sudan. The general duty doctor who used to be the backbone of the old Sudan medical services became a less stimulating and even stigmatizing career prospect for young doctors. The new breed of specialists, trained in developed countries and working in big hospitals, became the role model for young doctors. The prestige of the specialist is thus contrasted with the inferiority of the general duty doctor status. This is further aggravated by regulations of employment which require specialty diplomas for promotion to senior posts and by the difference between specialists and generalists in their earnings from private practice.

Given the limited opportunities for postgraduate training, competition for postgraduate studies became an obsession for young doctors. The selection criteria were based on the results of a written, theoretical examination in biomedical and clinical subjects, with no regard to work record or performance. Thus, work in rural hospitals was not only irrelevant but a real threat to specialist career prospects. Added to these disadvantages, work in rural hospitals or PHC programmes carried no financial incentives in terms of salaries or private earnings. It was not surprising, therefore, to find more than 80% of doctors in the country working in the two big urban teaching centres. The average period of 6 to 12 months spent by young doctors in a rural hospital reflects poorly on the stability of administration and leadership in these settings.

Problems of Administrative and Organisational Structure. The adoption of the PHC programme in the Sudan was not followed by parallel organisation of budgetary changes to reflect adjustment to these new policies and priorities. At the centre the organisational structure of the Ministry remained unchanged, while a new PHC department and affiliated programmes were added as an appendage. In the regions and at the periphery the old organisational system inherited from the colonial era was running through a period of serious trouble at the time when the PHC programme was being adopted. Within that system the village level health services were usually organised and supervised from the district. This was becoming problematic and almost impossible for the following reasons: 1) population growth in the previous thirty years had led to an increase in population which now ranges from 200,000 to 750,000 per district; 2) the increase in the number of PHC units within a district to cope with the population growth, and the PHC drive to increase coverage led to over 100 units per district, which is unmanageable from a single centre within the given logistic constraints; 3) difficulties for transport were created by the large areas covered by districts, escalation in fuel prices and high cost of maintenance. This made effective supervision and communication within the district almost impossible; 4) a succession of local government laws created new rural and urban councils as alternatives to the district system. This stripped the district health team of its original advantage of being close to the administrative and decision making centres; 5) the original dichotomy of preventative and curative services is exacerbated by the Local Government Act which passed the administrative and financial responsibility for PHC units to the local government authorities, while hospitals remained under the Ministry of Health; 6) the diminishing financial resources available to the health services, due to the general financial decline in the national economy and the lower order of priority which health occupies in the political priority list for expenditure, and 7) the reluctance of doctors to take rural health assignments as described above. The inevitable result is that the village level health units were cut off from both logistic and supervisory support and were left isolated with a mounting number of unresolved problems. It was obvious that under such circumstances the system of peripheral health could not cope with the PHC drive to improve both coverage and quality of service.

After outlining these problems and underlying causes, the University started working with the Ministry of Health to develop and implement activities which would resolve these problems.

The Health Area Concept and Policy

A continuing dialogue between the Ministry and the University took place in the form of joint meetings, workshops and sharing of reports. It was agreed that the absence of leadership and management support for the village PHC units was the most important problem. The establishment of the rural hospital as the centre from which this leadership support would be provided was proposed as a corner stone for action. This was later developed into a concrete policy which redefined the role of the rural hospital to become an integral part of the PHC complex and a focus where all national programmes and services would converge for integrated implementation (Figure1). The executive responsibility for leadership and managerial support were designated to a management team representing different health departments within the area and headed by the medical officer (doctor).

Within this new health area policy the country was divided into 160 areas which were defined geographically around rural hospitals and their surrounding population. The team would be responsible for: 1) administration of the entire health services and health personnel within the area; 2) local planning, implementation, evaluation and management support of all health activities; 3) supervision of health workers in the area and provision of support and training as required; 4) provision of logistic support and delivery of drugs and other supplies for the units in the area;

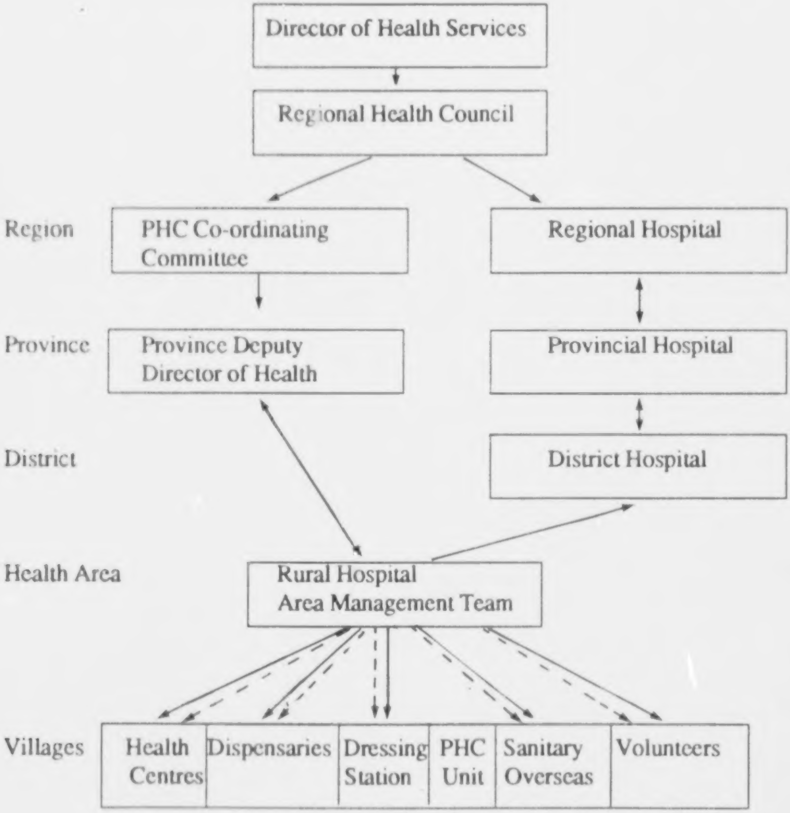
Director of Health Services
Regional Health Council
Region
PHC Co-ordinating Committee
Regional Hospital
Province
Province Deputy Director of Health
Provincial Hospital
District
District Hospital
Health Area
Rural Hospital Area Management Team
Villages
Health Centres
Dispensaries
Dressing Station
PHC Unit
Sanitary Overseas
Volunteers

Figure 1. Suggested organogram of regional health services after health area policy

5) improvement of population coverage by existing services and introduction of the other missing elements in the PHC service package; 6) integration of all service components, including those delivered by vertical programmes and inter-sectorial cooperation with other government departments engaged in development activities, and 7) promotion of community organisation and seeking effective community participation in the service at all stages; and 8. Establishment of an information system to assist team decision making and to provide feed-back and communication with higher levels.

It was hoped that this system would provide leadership and management support from a reasonable distance while integrating all health service activities at the periphery. The rural hospital, as a site and focus of area management, would build on the resources already available in these facilities and combine the curative referral back-up for the PHC units with technical and administrative on-site supervision.

PHC Management Training

A three week PHC management course was designed and offered in Gezira to address the basic lack of orientation among doctors and to respond to the need created by the new policies. The objectives of the course were based on the task analysis of the new expanded responsibilities of the rural medical officer. The course included three units: 1) orientation to PHC concepts, strategies and interventions. This unit focused on the dimensions of the health problems in the country and other developing countries and the rationale for the adoption of the PHC approach. The important concepts behind primary health care, together with some high impact cost-effective interventions and technologies, were discussed and examined. The national PHC programme objectives were outlined and its activities were demonstrated in the class room and through field visits; 2) PHC programme management. In this unit the participants were introduced to the basic management principles of the PHC programme. Then, through field visits and small group exercises, the participants developed programmes for implementation in rural health areas for child survival and maternal health interventions. The small group exercises and the plenary discussions covered all aspects of project development including needs and resource assessment, problem definition, objective setting, choice of strategies, planning of implementation, training and supervisory needs, and evaluation criteria for these projects, and 3) rules and regulations related to rural health. This unit was tutored by experienced Ministry of Health tutors and covered personnel management, financial management, essential drugs, and a management audit exercise. This course was first targeted to the rural medical officers but later on it was opened to other health personnel with management responsibilities for PHC. The course was run twelve times and has trained 320 participants so far. The training was based on a participatory adult education approache where the training team members work as facilitators and encourage active learning. The design of the course included follow-up visits to trainees by trainers at their place of work. These visits led to substantial improvements in the course, promoted understanding among tutors of the problems facing rural health, and later enhanced the dialogue between Ministry and University and led to the development of new policies.

A second training activity, developed by the university, was a special Arabic language course for the training of Health Area Management Teams. This 16 day course focused on leadership skills, team functions and team work.

Obligatory Rural Service Assignment for Doctors

The report to the Ministry of Health on difficulties and problems facing doctors during their rural assignment stimulated wider discussion of the policies and regulations related to the deployment of doctors. The University took the initiative and called for a national workshop in which the participants were Ministry of Health officials, headed by the Minister, the doctors' association, female doctor representatives, local government officials, independent professional leaders and university staff. The workshop produced draft recommendations for new manpower regulations which provided for a two year obligatory rural service by all doctors. It also recommended that performance during the rural assignment should be the most important criterion for selection for postgraduate studies. The workshop recommendations were adopted by the National Council for Health, the highest health policy and decision making body in the country.

Conclusion

This experience of facing the absence of effective leadership for the PHC programme in the Sudan is an example of effective partnership between a university and the health delivery system. The involvement of the Gezira Medical School with the Ministry of Health placed the university's technical capabilities at the disposal of the Ministry. The systematic analysis of the problem and its causes led to the adoption of a new organisational structure for the service, new policies, and the identification of new skills for which training programmes were developed.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 183 - S 184

An Experience of Community-Oriented Training of Public Health and Community Medicine Specialists

Giovanni Renga, Franco Cavallo, Francesco Di Stanislao, Patrizia Lemma and
Rossanna Becarelli
Università degli Studi di Torino
Torino, Italy

Abstract

Since a few years our school has started a new approach of specialists training in Public Health and Community Medicine, based on Community-Oriented Education, in close connection with the Health Service at the regional level.

The objective of our experience is to train a specialist attentive to the health needs of his community, able to coordinate primary care services, therefore endowed with managerial capabilities and able to carry out quality assessment of his services. To attain these goals we have set up a learning framework based on direct involvement with the professional setting where the future specialist will be asked to work and on the use of problem-solving as main pedagogic technique.

Our didactic experience, which has now reached its second year, has been carried out with a close involvement also of a group of specialists already working in the Public Health Services of a number of USL's of our region. The programme of continuing education set up for this group of specialists has also been part of the learning programme of our school of specialty, with great satisfaction of both groups of learners.

The first two years of the school activity has been based on a limited number of learning modules focusing on problems which could actually be encountered in the real situation of an operating Public Health Service. The students were asked to analyse the problems using the problem-solving approach, in small groups, under the guide of a tutor and with occasional help from the specialists working in the Public Health Service of a USL near Turin, whose direction is in charge of our university department.

On the other hand, the workshops planned for the continuing education of the group of specialists coming from different USL's in the region have been concerned mainly with organisational and evaluation themes involving actual service situations, used as occasions for insight and discussion. An important by-product of this activity has been the start of a research activity on the assessment of Public Health Services of

160

the region, which will be carried out by this group of specialists together with the students of our school.

We believe that our experience, even while lacking of a great number of resources (administrative, financial, of teaching and tutorial personnel), is giving us very stimulating results, bringing up innovative indications for the training of medical graduates in this field.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 185 - S 190

Training Health Workers for Effective Immunisation

V. Sampathkumar, J. Anbarasi, Solomon G. Victor, F. Vatsala Ebenezer, S. Stalin Gnanasigamani, Ruth B.L. Daniel, Kuryan George, Rajaratnam Abel, T. Jacob John and Vinohar Balraj
Christian Medical College and Hospital
Vellore, India

Abstract

Since 1979 the institution has been involved with a research project in controlling the incidence of poliomyelitis using injectable killed polio vaccine. Since 1988, this programme has been extended to the entire district covering the population of approximately 3.5 million. In this programme the Christian Medical College participates through its virology department and the RUHSA department. This paper describes the role of the RUHSA department in providing the training that was necessary for government health workers to change from providing oral polio vaccine to change them to provide injectable polio vaccine. A manual was developed, and the health workers were trained over a period of six months.

As the next phase RUHSA is responsible for educating the community in the various aspects of immunisation and to create a demand for immunisation. The process is described in detail.

Introduction

The Christian Medical College and Hospital (CMC & H), a leading institution involved in the training of medical, nursing, and paramedical students, has been actively involved in providing health care since 1900. It began with a one-bed clinic started by Dr. Ida S. Scudder and today CMC & H has grown into a 1200 bed hospital. This growth is the outcome of Dr. Ida S. Scudder's vision to establish a major health training institution to provide health care for women.

In former days, women were allowed to die rather than being treated by male doctors. She started a clinic, a nursing college (1940) and a medical college for women (1942) which was later (1947) converted into a co-educational institution.

Requests for reprints should be sent to V. Sampathkumar, RUHSA Department, Christian Medical College & Hospital, POB 632 209, North Arcot District, Tamil Nadu, K.V. Kuppam, India.

CMC & H also extends its services to the poor and the needy of Vellore. Two departments provide health care services to the rural communities in three areas: Anaicut, Kaniyambadi (CHAD) and K.V. Kuppam (RUHSA). Socio-economic development programmes are also carried out in the Kaniyambadi and K.V. Kuppam areas.

Polio Control Project in the K.V. Kuppam Block

In 1979 a polio control project was started in K.V. Kuppam. Killed Polio Vaccine (KPV) was introduced in some parts of K.V. Kuppam, and other areas were covered by oral polio vaccine (OPV).

In the KPV area decreased incidence of poliomyelitis was observed. As a result the whole area was treated with KPV, and a decrease in the incidence of poliomyelitis was observed in the following years. In 1988, with a coverage of 80 %, a zero incidence level was achieved.

This experience enabled the planners of the immunisation programme at this institution to extend the KPV programme to the entire North Arcot district with the exception of one Health Unit District (HUD).

North Arcot district has a population of roughly 3.5 million. For operational purpose the district has been divided into three HUD. The KPV programme in North Arcot district was introduced in two HUD, and Vellore HUD was kept as the control area where OPV was provided. This entire programme was referred to as the "North Arcot District Poliomyelitis Control Programme" (NAPCOP).

NAPCOP was a collaborative project with the participation of the Department of Public Health of the Government Tamil Nadu.

The Indian Council of Medical Research, and CMC & H, Vellore. While the epidemiological and technical know-how were provided by the Virology Department, RUHSA Department carried out the training of Government Health Staff and Community Survey and was also responsible for community education.

Goal and Objectives of NAPCOP

The goal of NAPCOP has been to develop a model for other districts and to provide information necessary to define national policies on vaccine preventable diseases. The objectives were: 1) to control poliomyelitis in the North Arcot district; 2) to evaluate the efficacy of two different vaccines viz. KPV & OPV; 3) to evaluate the implementation of new vaccination schedules; 4) to establish epidemiological methods of measuring the incidence of poliomyelitis, and 5) to prevent other lethal

163

diseases along with poliomyelitis.

An unique feature was the collaborative nature of the programme. The success of the programme largely depended on cooperation and collaboration. NAPCOP was but a small step towards this goal, and the process is described below. The following were the steps involved in NAPCOP: Needs assessment, Methodology and planning of curriculum, Training, Community survey, and Community education.

Needs Assessment. Prior to the training of health workers, a needs assessment was carried out. Discussions with Government officials, visits to two PHC units, and discussion with multi-purpose health workers were conducted. The following needs were identified: Emphasis on KPV schedule for training; Logistics of the cold chain; Site of injection (thigh region to be emphasizedd and demonstration to be provided); Discarding of unused vaccines; Effective supervision of immunisation programme. These were incorporated in the training of health workers.

Methodology and Planning of Curriculum. A series of planning meetings was conducted in the Virology and RUHSA Departments of CMO&H with staff involved in the programme and with officials from the Government Health Department. The planning emphasizedd the methods of training and the development of a curriculum. Messages were prepared on which the manuals for the training programme were developed. Four manuals were developed; two for KPV and two for OPV (one in English and one in Tamil).

The English manuals contained a detailed description of the important aspects of immunisation, while the Tamil manuals were more condensed to provide immediate and specific details of the immunisation programme for multipurpose health workers.

Content of the Manuals. The content of the KPV manual consisted of an introduction to NAPCOP, case definitions, immunisation schedule and the steps involved in conducting a vaccination clinic, presented in the form of a flow chart (Figure 1).

The OPV Manual was essentially the same as that for KPV, except for the description of the administration of OPV. Illustration of vaccination sites and cold chain equipments were included in the manuals.

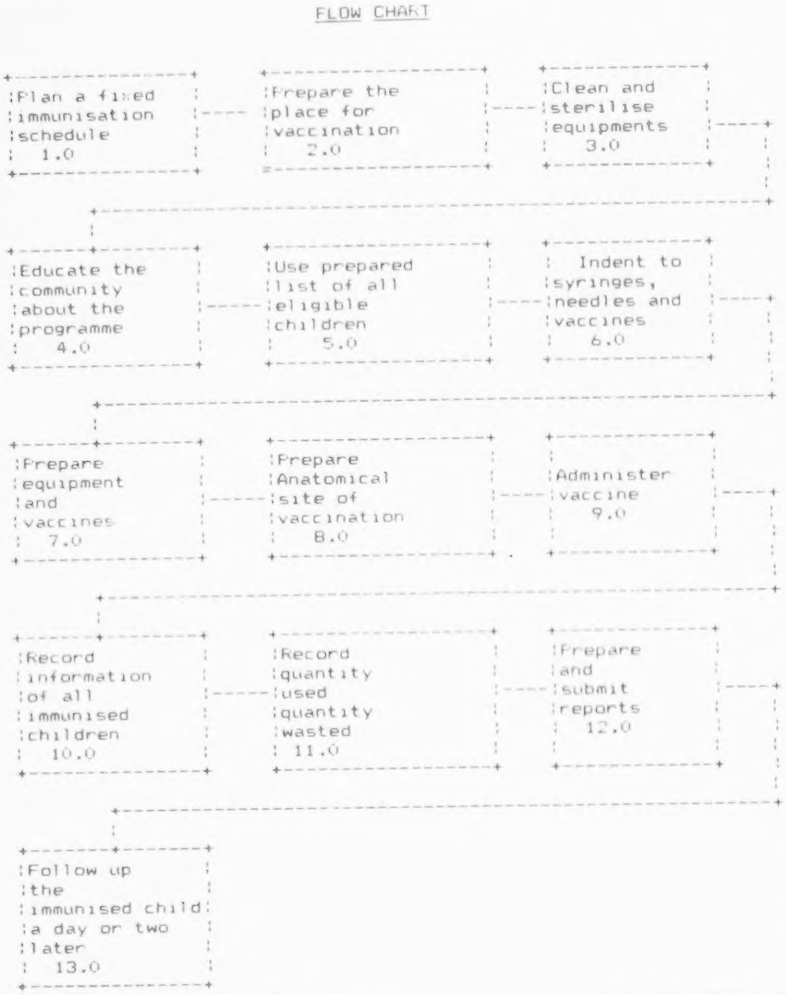
FLOW CHART
Plan a fixed immunisation schedule 1.0
Prepare the place for vaccination 2.0
Clean and sterilise equipments 3.0
Educate the community about the programme 4.0
Use prepared list of all eligible children 5.0
Indent to syringes, needles and vaccines 6.0
Prepare equipment and vaccines 7.0
Prepare Anatomical site of vaccination 8.0
Administer vaccine 9.0
Record information of all immunised children 10.0
Record quantity used quantity wasted 11.0
Prepare and submit reports 12.0
Follow up the immunised child a day or two later 13.0

Figure 1. Flow Chart

Each of the above steps mentioned in the flow chart is described in a chapter of the manual.

Training of Health Workers

The primary objective of providing training on immunisation for health workers was to give them the necessary knowledge, attitude and skills for conducting an immunisation programme. The training began in June 1988 and was completed in December 1988. The training took one day for KPV areas and half a day for OPV areas. Teaching methods included lectures, video presentation, models and live demonstrations. Instruction included: philosophy and objectives of NAPCOP; vaccination schedule; case definitions; organising a vaccination clinic; sterilisation technique; vaccination site and vaccination technique; side effects and contraindications of vaccination; filling in of utilisation reports and what to do with used, unused and partially used vials; videotape on six lethal infectious diseases; cold chain; community education; important rules to be followed in immunisation, and post-evaluation.

NAPCOP Implementation and Monitoring

The planning was carried out at state and national level. Implementation of programmes and monitoring was coordinated at the district level. The District Advisory Committee included medical college personnel and service personnel. This committee gave broad guidelines for implementation and reviewed progress.

Community Survey

A community survey was conducted to measure the knowledge, attitude and practice of mothers in relation to immunisation to provide the base for further planning. This study indicated that only 20 - 30% of the mothers questioned had some knowledge about preventable infectious diseases, and only approximately 15% knew about the vaccines available to prevent those diseases. In spite of the low level of knowledge among the mothers it is surprising that a large number of their children had been immunized. This could be due to the work of the health workers. It is anticipated that through this joint venture the level of coverage is likely to go up.

Community Education

This is in the planning process. A multimedia approach is being considered.

Conclusion

This paper presents an area where there is a possibility for a teaching institution like CMC&H to work with the Government in improving the health services. The three aspects of training Government health workers, conducting a community survey, and educating the community to create a demand for immunisation services are sensitive areas for integration. An even more sensitive area is evaluation of the health services. It should be a joint venture between the Government and the teaching institution.

Acknowledgement

We are extremely grateful to Messrs B. Murali, R. Rajendran, S.A. Jeevan Kumar and Ms. A. Kuchambal for secretarial help. We are indebted to Mr. N. Anbazhagan who helped us with computer analyses, and Messrs R. Sampath, K.M. Mahadevan, R. Govindaraj, M. Kamaladoss, V.T. Sundaramoorthy and M. Parandaman for their help in data collection.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 191

Linking Medical Education and Health Care through a Health Information System

Rossi Sanusi
Gadjah Mada University School of Medicine
Yogyakarta, Indonesia

Abstract

In 1985, the Gadjah Mada University Medical School started a problem-based, community-oriented medical education programme. By means of small group learning and field work, students learn how to collect, process and use health data. Morbidity, mortality, disability and demographic data are used by students, as well as health centers to which they are attached, for the planning of logistics. Risk factors and intervention data are utilised for identifying action strategies. Programme evaluation is based on effectiveness and efficiency data.

Both medical education and health care can benefit from the information generated by students, health personnel and community health workers. Further information can be acquired through collaborative research and demonstration projects.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 193 - S 195

Academic Institutions and Health Care System as Partners in Health Care Development: The Chiang Mai Experience

Kamjad Swasdio
Chiang Mai University
Chiang Mai, Thailand

Abstract

In Thailand, the primary health care concept has been accepted in the National Health Policy. Medical school graduates are expected to work at community hospital level. Chiang Mai University is the government university in the northern part of Thailand, comprising 17 provinces. In 1982, the Faculty of Medicine initiated a programme to enroll students from these provinces into an innovated programme. The first three years of the six year curriculum are premedical and preclinical. The fourth and fifth year are clinical and the sixth year is an externship. The fourth year students rotate, for a period of four weeks, to the family medicine clinic and spend their clerkship at the provincial (general) hospital. The fifth year students have their elective during the summer vacation, working in a community or general hospital for about three to four weeks. The sixth year students are assigned for three weeks working at a community hospital. In addition, they will be posted for three to seven months to the central or general hospital.

This programme represents the community-oriented and community-based components of the curriculum. Evaluation of the programme is carried out at the present time and the problems are discussed.

Introduction

In order to correct the problem of maldistribution of physicians, the Faculty of Medicine in Chiang Mai, 750 km North of Bangkok, was established in 1956. During the first 20 years, a curriculum similar to that at Siriraj and Chula medical schools in Bangkok was used. It was divided into three parts: premedical, preclinical and clinical. Each phase required two years, with an additional one year internship.

Requests for reprints should be sent to Kamjad Swasdio, Chiang Mai University, Faculty of Medicine, Chiang Mai 50002, Thailand.

Twenty years after the establishment of the medical school there were many indications that the curriculum should be modified. The three main observations were: 1) the content of the preclinical years repeated what students had learned in high school; 2) the curriculum was not appropriate to practice in the government hospitals, especially at district level, and 3) the teaching of community medicine (formerly preventive medicine) was not adequate.

Since 1978, the curriculum structure has been changed to a one year premedical, two year preclinical and three year clinical with increased rotation to community medicine. The internship was abolished.

In 1979, the Fourth National Conference on Medical Education resolved: 1) to find means to increase the number of physicians; 2) to improve methods of selection; 3) To train teachers in premedical and preclinical departments; 4) to find means for teaching staff, and 5) to use appropriate educational technology.

In the meantime, the primary health care concept had been accepted into the National Health Policy. The infrastructures in the system were health communicators, health post volunteers, health stations, community (district) hospitals, general (provincial) hospitals, central hospitals (1 in 4-5 provinces) and university hospitals. Medical school graduates were expected to work effectively at community hospital level where they have to work for at least 3 years under government contract. The ultimate objective of the medical schools in Thailand is to produce the required graduates.

Strategy for Innovation

In 1980, an innovative programme was initiated. Enrolment was increased by 20% or 24 students/year. These students were selected by community leaders; five students from each of the 17 provinces, the total number was about 85. These students were screened academically by the entrance examination at the same sitting with other students. This group of students were informed that their clinical learning would take place in one of the two 500-800 beds government hospitals in Lampang (108 kms from Chiang Mai) and Pitsanuloke (about half way between Chiang Mai and Bangkok). Both are central hospitals.

However, before their first clinical year started in 1973, it was decided that the whole class of students should be rotated for clerkships outside the medical school for 2 weeks in the 5th year and 3-7 months in the 6th and last year of the curriculum.

In addition to this modification, the whole class of 6th year students would have to spend 3 weeks at a district hospital, arranged by the Faculty through the Department of Community Medicine.

The 6th year students in the Departments of Medicine, Surgery, Paediatrics, and Obstetrics and Gynaecology were to have their clerkship at the two hospitals above and some provincial hospitals. Rotations included three months each for medicine and surgery, two months each for obstetrics, gynaecology and paediatrics.

The last two months would be equally divided (three weeks each) between emergency room, orthopaedic surgery and community medicine.

Assignment to medicine is for one month at a central hospital and two months at the university hospital. Assignment to surgery is either one month or the whole three months at the central hospital, or at a provincial hospital. For obstetrics and gynaecology the students can spend the whole two months in a central hospital or they can spend one month in the university hospital and one month in a provincial or MCH hospital. The paediatrics rotation is one month at a central hospital and one month at a university hospital.

Teaching and learning, including summative assessment outside the university hospital would be supervised by physicians working at the respective hospitals. No Faculty staff members are assigned to teaching posts outside the university hospital at the 6th year level. This programme is designed to introduce the community-oriented and community-based components of the curriculum, expecting that the graduates would be better prepared to work at the community hospitals to which they are assigned after graduation. Evaluation of the programme is being carried out.

Conclusion

University staff and physicians in the community, general or central hospitals are under different ministries. Differences in organizational objectives, policies etc. must therefore be discussed, and common goals must be agreed before effective cooperation can be expected.

Some physicians in hospitals are not willing to teach or are not well prepared for teaching. There are inadequate numbers of physicians in some departments of the general or central hospitals. This problem has been solved by allocating residents in training to assist in service duties. Some teachers in the medical school are concerned that teaching and learning may suffer at hospitals that may not be up to university standards. Physicians at the hospitals tend to request more equipment and an increased budget, in order to equal university hospital standards. Investigations are increasing. Transport for students is also a problem. There have been at least three favourable outcomes: 1) the programme strengthens cooperation in service, research and management: 2) the programme encourages staff development, and 3) considerable increase has been noted in the practice of manual skills by externs.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 197

Cooperation between the Health Care System and the Medical Faculty in Temuco

Cesar Torres and Fernando Muñoz
Universidad de la Frontera
Temuco, Chile

Abstract

In Chile, there is a tradition of cooperation between the state Health Care System and medical teaching institutions. The National Health Service, created in 1952, was started as an initiative of physicians who were both health officers and professors of medicine at the Universidad de Chile.

Medical teaching in Temuco started by 1965 and was promoted by the clinical staff of the hospital. A branch of the Universidad de Chile was created in 1970, that became the Faculty of Medicine of the new Universidad de la Frontera in 1981.

In the last 15 years, state funds for the Health Care System have been reduced and the primary care facilities have been transferred to the municipalities.

In our experience, the advantages of medical teaching at the Health Care System are: 1) an efficient use of the expensive resources needed both for health care and medical training; 2) the exposition of the students to the reality of the medical system in which they probably will work. Problems that this relationship involves are related to the different objectives of the institutions; to the existence of different directors for the same working area (health care and teaching), and to the different pathways that decisions concerning innovations for medical care or medical curricula must follow.

Facing this new reality, the Faculty of Medicine of the Universidad de la Frontera has reached agreements with the City Health Care System. New models for teaching primary care can be developed and improvements in the quality of the health care can be expected as a consequence.

The autonomy of the region regarding the use of the state funds, allow us to expect a positive impact of the technical advise provided by the Faculty of Medicine of the Universidad de la Frontera to the City Health Care System.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 199 - S 204

A Health Policy Programme in Östergötland, Sweden

K. Berglund, L. Ljungdahl, O. Lofman, L. Perers, I. Rahm, L. Rydin and E. Trell
University of Linköping
Linköping, Sweden

Abstract

The health policy programme of the Östergötland County Council contains a broad outline of the theory and knowledge about health work which form the basis for the proposal for overall goals and measurable outcome target areas for health activities. This programme is a first step in the increase of preventive activities which the County Council has decided should be the focus in the coming years. The initial task is to inform the entire County Council organisation of the health policy. The entire County Council organisation will participate in the implementation of the health policy. Its personnel must be given the knowledge, time and resources in order to accomplish this work. To succeed, the County Council must also increase its cooperation with authorities, organisations and associations in the county.
The necessary organisational structures and their respective responsibilities are outlined.

Introduction

In December 1987 the Östergötland County Council decided that a proposal for a health policy programme should be drafted. The programme should state the organisation and direction of future health policy and indicate priorities for preventive health care. The working group which drafted the proposal consisted of an epidemiologist, two specialists in community medicine, two district medical officers, a health services planner (group secretary), and a professor of general medicine (group chairman).

Health Policy Development

The Östergötland County Council has for long devoted resources to the development of preventive activities. Mammography screening, gynaecological health checks,

Request for reprints should be sent to K. Berglund, University of Linköping, Faculty of Health Sciences, Linköping, Sweden.

blood pressure checks and promotive health care are some examples of its well-established preventive programmes. Examples of preventive activities currently being developed are cardiovascular disease prevention, screening for prostate cancer, accident prevention and the prevention of osteoporosis. Responsibility for community medicine has been established in the County Council administration and in every public health district. Collaboration with the Faculty of Health Sciences of the Unversity of Linköping is being established through the Centre for Community Medicine.

What the County Council has lacked up to now is a clear overall political strategy for the health of the people of the County. The new health policy programme provides us now with an opportunity to plan the County Council's preventive efforts on a long-term basis. The implementation of the programme will involve the entire County Council organisation and requires broad-based cooperation with the University and Colleges, with voluntary organisations, municipalities and other authorities in the County. This development in Östergötland is very much in line with national and international trends.

Concepts in Health Care

The health policy programme establishes a number of principles which will direct health work in Östergötland. The concept of "health" emphasizes on the one hand the objective medical criteria for health, and on the other hand it focuses on quality of life and the individual's own perception of what constitutes health. This concept of health contains both the objective view that the population should be as healthy as possible, and the subjective view that individuals should see their quality of life to be good.

Another important principle is the need to accept that each individual is ultimately responsible for his or her own health. In preventive work the role of the expert must be abandoned in favour of a more advisory and supportive role. Towards this end health personnel should be given the opportunity to acquire skills in health education.

In choosing health policy measures it is essential that ethical aspects are carefully considered. What is best for the population as a whole is perhaps not always what the individual considers best. The programme proposes that four basic ethical rules should be followed in planning and implementing health programmes in the County Council: not to do harm; respect the integrity of the individual; employ the most effective methods in prevention and distribute resources equitably.

Health Policy Goals

The unique collaboration of the County Council with the Faculty of Health Sciences, has enabled the Östergötland County Council to emphasize its role as a "health county council". While good medical treatment should be availabe to the whole population on a basis of equality, the people of Östergötland should have equally ready access to preventive care. The importance of cooperation with community organisations, other than the County Council should be emphasized. Sweden has a unique tradition of involvement in voluntary organisations which can be used to advantage in local health activities.

The above principles were linked to five goals for the County Council's health activities: Östergötland County Council - A Health County Council; health care that is equally accessible to all the people of Östergötland; high quality health care; health care that satisfies the needs of the population; and community participation in health care activities.

Measurable Targets

A number of different approaches are availabe when the aim is to improve the health of a population. One way is to define risk groups and to plan measures to help these groups. Another strategy is to attempt to influence one or more health risks. Some health risks relate to the environment, others may be a consequence of a particular lifestyle. A third approach is to seek to prevent widely prevalent diseases.

The Östergötland County Council has given priority to four health policy outcome targets for special attention.

The following conditions apply to all four areas: 1) implementation must involve integration of measures in existing health care activities; 2) implementation presupposes intersectoral collaboration, promoting community-oriented health activities, and 3) the level of knowledge should lead to immediate programmes of action, even where such knowledge will be expected to continue to grow.

Existing and planned preventive activities will not be downgraded in favour of integrated activities which are to be started within a number of areas. A combined strategy to achieve a number of priority health policy goals should prove to be an asset and a boost to ongoing health work in Östergötland. The selected health targets will require detailed planning, and it will be important to ensure wide support from inside and outside the County Council. The measurable outcome target levels should be formulated through dialogue between experts and decision-makers to match what is scientifically and technically possible with available resources. If the targets are to lead to demonstrable improvements in the health of the population, planning should allow for implementation over a considerable number of years and made measurable in one- and five-year periods.

Measurable Target No. 1. Reduction in lifestyle-related risks
The wrong kind, or too little physical exercise, tobacco, alcohol and drugs, and inappropriate diet are factors which individually or together can cause ill health. A correlation between lifestyle-related risks and some of the widespread diseases can now be assumed. Lifestyle-related health risks require preventive efforts of a primary, secondary and tertiary kind. Two important target groups for prevention at a primary level are children and young people. Intensified work with these groups accords with the political aims of the County Council.

Measurable Target No. 2. Reduction of accidents
This is the area where a preventive programme can yield the fastest and perhaps most tangible and measurable gains. Favourable conditions for accident prevention in Östergötland have been created through the project "Motala - an accident-free municipality". It is likely that an organisation with the aim of reducing every category of accident in the whole county could be built up relatively quickly, when the experiences of the Motala Project have been evaluated.

Measurable Target No. 3. Reduction in musculoskeletal disorders
Musculoskeletal disorders cause considerable suffering and economic loss to individuals and society through long absences from work and early retirement. It has been proposed that resources should be used to reduce osteoporosis and musculoskeletal disorders which are work-related. A measurable outcome will be reduced loss of time from work. It should be possible to achieve this through early, offensive rehabilitation. Experimental work is in progress in Östergötland.

Measurable Target No. 4. Improved health care of the elderly
Life expectancy in Sweden is high and increasing, so that older people constitute a growing proportion of the population. It is important to improve the health and

quality of life of the elderly. This is an important part of the total care of the elderly and has therefore been nominated the fourth target in the health policy of the County Council.

The elderly are also an important group for the other three target areas.

Organisation and Resources

Dissemination of information. The initial task is to make the whole County Council organisation familiar with the goals of the health policy. Representatives and employees must be given an opportunity of getting to know the background to preventive health activities. The politically determined initiative must find acceptance among the personnel as the Council's most important resource for preventive health activities. The Faculty of Health Sciences can be engaged to train "messengers" who will help to spread awareness of the goals of the health policy. Another important task is to bring the programme to the attention of the inhabitants of the County. The Centre for Community Medicine will spread information and knowledge about the progress of the health activities. It will be the task of the Centre to provide professional expertise.

The health policy group. A health policy group, similar to that which drafted the health policy programme, should be established on a permanent basis and include representatives from the County Council and the Faculty of Health Sciences. The group should include representatives from the Centre for Community Medicine, the three public health administrative departments and the County Council administration. The health services should be represented in the group by various specialities, including primary care and public health. The task of this group should be to propose, review and evaluate health goals as a basis for one-year and five-year long-term strategic planning.

The health council. There should be a group - a health council - which will be concerned with decisions about orientation and goals, development of new knowledge and actual health work in the community. As the County Council is responsible for the health of the people of the county, contacts with other authorities and organisations must be intensified at county level, for example the social insurance service, municipalities and state authorities in the county. This must also be reflected in the composition of the health council.

In the health council a basis for political decisions can be worked out. Similarly, the implementation of political directives may sometimes be more suitably dealt with by a council in which a number of authorities are represented. For the development of the various parts of the health programme it has been proposed that a county health council and several local coordinating bodies should be created. The county health council can work out the basis for an overall county health strategy and for health work in the county as a whole. The council can be an important forum where information may be exchanged, and integrated health activities can be planned. This council should be seen as a complement to, and an extension of, the existing county-wide health promoting bodies. The Council for Road Safety Research and the Air Management Council are examples. Local coordinating committees should be established in every municipality for the planning and implementation of local health activities. By taking the initiative in forming these bodies the County Council can ensure the coordination of the practical preventive activities of primary care and other local authorities and interest organisations. Such consultation is already under way at municipality level. At the local level it is important that the resources of voluntary organisations should be used. The tradition of voluntary organisations is unique to Sweden and provides a good basis for local health activities.

County Council Administrative Departments and Community-oriented Health Activities. The County Council is a large organisation which is for the most part occupied with looking after and executing county business. The County Council management expects much from the administrative departments' involvement in health activities. Even more is expected with respect to the implementation of the measures that are necessary to achieve the goals laid down by the health policy. Resources have been created to support the preventive activities, for example special development units in primary care and the Centre for Community Medicine where the Faculty of Health Sciences and the County Council meet for research and development in preventive medicine.

In assigning priority to efforts in health care, the actual work of caring for, and treating the sick will always take first place. Next in importance will probably be patient-oriented preventive activities. However, population-oriented and community-oriented health work must be given increasing emphasis.

The planning of the measurable outcomes and programmes will show the way in which community-oriented health activities can be given a place in the work of the administrative departments.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 205 - S 209

Academic Institutions in Health Care Development: A Nepalese Experience

Madan P. Upadhyay and Jimmie Tamsang
Tribhuvan University
Kathmandu, Nepal

Hari M. Subba
Nursing Campus
Biratnagar, Nepal

Abstract

This paper describes the results of an ongoing evaluation of the edcational activities of the Institute of Medicine. Information was collected by direct observation and interviews with teachers, students, health post staff and community leaders.
Health sector development is considered in three categories: 1) coverage by health system; 2) development of health infrastructure, and 3) continuing education of health workers.

Introduction

Nepal, a signatory to the Alma Ata declaration of Health for All by 2000, faces many health problems. It has an infant mortality rate of 111/1000, a life expectancy at birth of 50 years, a population which is increasing at a rate of 2.6% per annum, with a fertility rate of 6%, crude birth rate of 41.5/1000 and crude death rate of 16.5/1000, maternal mortality rate 8.5/1000 live births. Diarrhoea, malnutrition, acute respiratory infection, and parasitic infestations are common causes of morbidity and mortality. Five-sixths of the country is covered by rocky hills and snow-capped mountains. Only 16 % of its 147,181 sq.km can be cultivated and only 17% have irrigation facilities.

It has a doctor-population ratio of 1 : 24,000 and a nurse-population ratio of 1 : 23,000, with 80 % concentrated in urban areas. Fourteen of Nepal's 75 districts are devoid of any hospitals; there are 810 health posts providing curative and

---

Requests for reprints should be sent to Madan P. Upadhyay, Tribhuvan University, Institute of Medicine, POB 1524, Kathmandu, Nepal.

preventive services through paramedicals (His Majesty's Government of Nepal and World Health Organisation, 1987; His Majesty's Government of Nepal, 1986). With less than 4% of the national budget allocated for the health of 1.8 million people, the per capita health expenditure is less than one dollar fifty cents.

The Institute of Medicine (IOM) of Tribhuvan University is the only institution responsible for the training of health manpower in the country. It has 12 campuses spread over the country, with an annual intake of 750 and a total of 1,650 students at any given time. Students at all programme levels are required to spend varying lengths of time in the community, so that the training, to a large extent, is field based. This paper reviews the educational activities of these campuses.

Partnership in Health Sector Development

The campuses have contributed in the development of the health sector through manpower development, strengthening the health care system through student and Faculty interaction, and problem-oriented research and evaluation.

Manpower Development

All curricula are competence-based as indicated by job descriptions. A large part of the training is community based. There are ample opportunities for advancement through vertical mobility, e.g. a Community Medicine Auxiliary can progress to Health Assistant and to Medical Doctor with specialisation in an area of his choice. Training by the university is well coordinated with the requirements of the Ministry of Health. As a result of interaction with the Ministry some programmes have been stopped, and some have been suspended temporarily and then restarted. In view of the shortage of nurses the university more than doubled its intake from just over 100 to 250 in the last three years. Similarly, a shortage of anaesthetists and radiologists caused special training programmes to be initiated in 1983 and 1988.

Over 80% of health workers in the health system of Nepal have been trained by IOM.

Strengthening Health Care System

Coverage

In Nepal with its difficult geographical terrain, sparse health facilities and scattered population, access to health services is extremely difficult. This, combined with general ignorance (literacy rate 25%) means that coverage by the health system is extremely poor.

Available data demonstrate that mothers began using these services following students and Faculty Staff interaction with mothers regarding protection of their children through vaccination and guarding their own health through antenatal care. Educating parents about the preparation of oral rehydration solution, demonstrating safe methods of excreta disposal and educating them to use boiled water have helped in the reduction of diarrhoea and diarrhoeal deaths in several areas where our students have worked.

Demonstrating how to prepare nutritious meals from locally available food stuffs was found very rewarding by our students, when they discovered on revisiting that mothers were actually feeding their children with home grown nutritious food.

School teachers are trained to teach their pupils about personal hygiene, nutrition and prevention of infectious diseases.

Strengthening Health System Infrastructure

The students collect demographic and health data as part of their study of community diagnosis. The students use this information to implement micro health projects, as well as convey the findings to the Ministry of Health. They also help to update records at the health post. Data are analysed and presented to the health post staff, and their implications are discussed.

The development of a referral system is assisted by promotion of two way communication between the health system and its users.

Continuing Education of Health Workers

The Institute of Medicine provides opportunities for higher education to health workers who have completed a given number of years of service and are keen to pursue higher education. In addition to this formal education, the staff of district hospitals and health posts, where students carry out their field practice, have opportunities to extend their skills. Some examples are removal of retained placenta and foreign bodies, excision of cysts, and reduction of fractures (Field Education Support Unit, 1989. Training of traditional birth attendants (TBAs) and community health volunteers is a regular feature. Tribhuvan University runs a distance learning programme aimed at health post staff known as "From Institute of Medicine to Health Post". This radio programme has been on the air twice a month for the last three years. A "Primary Health Care Bulletin" issued every three months became a monthly feature in 1990.

Intersectoral Approach

Just as health development activities have a profound influence on other developmental activities, intersectoral cooperation is essential for the attainment of health by the community. Roads help to improve access to services, as well as to strengthen the referral system. Potable water, if made available to the whole community, will perhaps eliminate half of all ill-health from that community. The importance of agriculture as a source of supply of essential food is obvious.

Water supply.

In Jalbire, a village in the Himalayan ranges, students approached the Ministry of Water Supply on behalf of the community and were able to get piped water supplied to that community.

Road construction

In the same village Faculty staff and students, together with the Department of Roads, were able to build an access road with community participation.

Agriculture

Students carry a bag with different supplies. The contents include seeds which the students sow. This serves as demonstration to the community which subsequently replicates such practices

Aforestation

In a country, where soil erosion is of the order of 200,000 acre feet sedimentation annually, the importance of aforestation cannot be overemphasized. At Hattikharka, a village about 400 km East of Kathmandu, the students and their teachers obtained saplings from the local nursery and planted them within the health post compound. This had a catalysing effect, and aforestation was carried out in the entire village.

Conclusion

A brief country profile of Nepal and its health manpower training institution is presented. The students of the campuses are shown to act as a link between the university and the health care system. The participation of the campuses in both health sector and non-health sector developments have been described.

References

His Majesty's Government of Nepal and World Health Organisation. (1987). *Basic information/indicators to support implementation of basic minimum needs and HFA/2000 strategies*. Kathmandu, Nepal.

His Majesty's Government of Nepal. (1986). Central Bureau of Statistics. *Statistical pocket book. Kathmandu, Nepal.*

Field Education Support Unit, Institute of Medicine. Kathmandu, Nepal. (1989). Community-Based Field Education. *Proceedings of a workshop* held in Kathmandu, Nepal.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 211

Rural Training of Residents in Paediatrics

B.N.S. Walia, Rapesh Kumar and Vyay Kumar
Postgraduate Institute of Medical Education & Research
Chandigarh, India

Abstract

The Department of Pediatrics conducts a three years junior residency training programme which leads the students to the M.D. Pediatrics degree. All residents spend two months in a rural field practice area under the supervision of the Department of Community Medicine. During their posting they conduct referral clinics at three primary health care centers in the area and spend two hours every week in training different levels of health workers regarding national health programmes and in supervising their work. They thus try to improve the efficiency and standards of work of health workers without overtaking their work. Additional inputs of drugs supplies are minimal and staff strength is the same as prevailing in the remaining districts of the state. Over a period of six years, a steady fall in deaths due to acute respiratory infections, diarrhoeal diseases, malnutrition and an infant mortality rate from 90 to 52 in the study area was achieved. The study demonstrates that a substantial improvement in community health can be brought about by better training and supervision of paramedical health workers by staff from academic institutions.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 213 - S 214

The Implementation of Credit Semester Curriculum of the Medical Faculty, Sam Ratulangi University, in Supporting the National Health System of Indonesia.

Winsy F.Th. Warouw and B.H. Moningka
Sam Ratulangi University
Manado, Indonesia

Abstract

80% of the Indonesian people are in rural areas and 80% too have a relatively how income per annum. To promote a better welfare, one of the national development programme is to promote a better community health. Health problems in priority are: diarrhea, nutrition, immunisation, upper respiratory tract infections, and family planning.

The Indonesian National Health System, established based on primary health care and community participation, while the success gained by the programmes is in the success of health care activities in the PUSKESMAS (Pusat Kesehatan Masyarakat Health Center), amidst the community in the sub districts.

The core curriculum of the medical faculties in Indonesia was set up to support the success of the National Health System (Sistem Kesehatan Nasional) and being completed according to the diseases pattern surrounding each domicile of the medical faculty.

The medical faculty of Sam Ratulangi University covers a large referral area, consisting of many islands of the northern part of east Indonesia.

Since 1981, the Credit Semester Curriculum System was applied step by step to fulfill the 222 credits of curriculum. The students are trained to recognise health problems among the community, starting their first semester till the level of semester eight through their field learning experiences programme. While after they pass their semester eight curriculum, during their internship in clinic the students have to work in the community with their twelve weeks full integrated community programme, and mostly in rural areas.

As a result of the Credit Semester Curriculum System, the graduate new doctors increase from 30 to 60 doctors per academic study year (enrollment of new students 75-80 yearly). While the average length of study years decreases from 9.3 to 7.8 years.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 215 - S 216

The Function of General Teaching Hospitals in Community-Oriented Medical Education

Chen Zhi Xing
Shanghai Second Medical University
Shanghai, People's Republic of China

Abstract

The general teaching hospitals in Shanghai, as well as in other cities of the People's Republic of China, are the most sophisticated and perhaps the most misunderstood institutions in national health care. They perform various, partly overlapping functions, such as patient care, the medical education and training of health manpower, and research. These functions complement each other and generally require highly qualified multidisciplinary teams and a complex technological infrastructure.

Shanghai Ninth People's Hospital, which has 758 hospital beds and 1650 staffs, not only takes responsibility of health care for 790,000 inhabitants, but also provides and supports many different programmes or activities in community-oriented medical education. The following recommendations should, in particular, be noted:

1) The teaching hospital has a special steering committee in community-oriented medical education, which involves plans and strategy of medical education in community, the participants from general teaching hospital and other hospitals, one or two supervisors of health care and medical education form the community.

2) Medical students should go to general teaching hospitals and community hospitals or local hospitals for different study programmes, so a network should be set up between the general teaching hospital and other hospitals. Because of the close relationship, hospitals can exchange among each other about medical education information and discuss some problems or teaching methods.

3) The general teaching hospital must be capable of responding at any moment to the needs expressed by the other hospitals, such as receiving some staffs from community hospitals and continuing training for half or one year. The general teaching hospital is, therefore, a center for continuing medical training.

4) The general teaching hospital also organises many different training programmes or workshops of one to four weeks, for participants from small community hospitals or other hospitals.

5) Some highly qualified doctors or professors from the general teaching hospital

would like to be invited as a consultant for community hospitals. It provides both of diagnostic, therapeutic and lectures or short training courses for the staffs of other hospitals.

Only by following these recommendations and guidelines the general teaching hospital can expect to keep the highest attainable standard of health care and medical education.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 217 - S 219

New Educational Approaches

Attitude of Medical Students towards the COBES Programme

Mike A. Adedoyin
University of Ilorin
Ilorin, Nigeria

Abstract

The community-based experience and services (COBES) programme in Ilorin has been in operation for ten years. 320 Medical students, selected from all years of the course and 20 graduates of the institution were interviewed about their perceptions of, and attitude towards the COBES programme. Details of study, the results and implications on the COBES programme will be discussed.

Introduction

The educational philosophy of the University of Ilorin is based on student-centred, problem-based, and community-oriented medical education. The fulcrum of this philosophy is community-orientation. This is expressed in the form of Community-Based Experience and Services COBES. The programme allows students to learn directly from the community in the 2nd, 3rd, 5th and 6th years of their medical education. During community postings the students live with the people for a total experience of life within the community. They acquire experience and render health services commensurate with their level of education. It is one thing to fashion such a programme, it is another to evaluate its achievements with a view to modifying the programme or the processes. An important component of the programme is the attitude of the students towards the programme. The present study was, therefore, set up to assess the attitude of medical students and graduates towards the COBES programme at Ilorin. A semi-structured inquiry was set up and pre-tested on a group of social science students for reliability, and modified where necessary. The questionnaire was then given to the students and young graduates (1 - 2 years post-

---

Requests for reprints should be sent to Mike A. Adedoyin, University of Ilorin, Department of Child Health, PMB 1515, Ilorin, Nigeria

graduation) for self-administration. The responses were collected and analysed as appropriate.

Results

The response to the issue whether COBES was a useful means towards student-centred learning varied between the years of the course, from 94.3% in Year 1 to 75.2% in Year 2, 77.8% in Year 3, 65% in Year 4, 77,8% in Year 5, and 77% in Year 6. The overall verdict was thus that COBE was viewed as useful for student-centred learning. Relevance to their education scored well over 90% of the students' vote across the years of the course.

However, the majority of students felt that logistic support, such as transport and accommodation were not adequate. The Faculty has taken this issue seriously, and student accommodation is being built in the community. Although a higher proportion of mature age entrants than younger students expressed satisfaction with the preparations that had been made for the programme, almost 60 % of the students expressed dissatisfaction. This is, therefore, an issue that requires attention. Assessment of students achievement in the programme consisted of ongoing assessment, oral presentations and written tests. 78% Of the students expressed their satisfaction with the assessment.

Table I. Changes students would like to see in COBES

Improved accommodation	132
Efficient transportation	108
Provision of more funds	71
Changes in COBES site	51
More supervision & planning	45
More publicity	26
Provision of mobile library	20
Miscellaneous	47

Table II. What students had gained personally

Experience of rural life style	86
Independent learning	61
Team spirit	51
Inter-action with the community	48
Knowledge of health problems of the community	35
Leadership training	12

Table III. COBES in relation to their clinical practise

	Very helpful	**Helpful**	**Unhelpful**	**Waste of time**	**Total**
Doctors	1	5	4	1	20
Clinical students	26	80	14	5	125

Implications of the Findings

The programme should be continued. The logistic component should be strengthened. Permanent student residences have now been built at one of the COBES sites. This presentation makes a strong appeal for well-wishers to assist the Faculty in building students hostels at other sites. Mini-libraries at COBES sites need urgent improvement. Transportation is a big problem, and donation of a bus or two would go a long way towards enhancing the quality of the students' community-oriented medical education.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 221

Teaching Epidemiology to Medical Students: The Use of Popular Literature for Pedagogical Effectiveness

Samia W. Altaf
Development Research and Management Services
Islamabad, Pakistan

Abstract

Medical school curricula are traditionally dominated by factual information related to biomedical knowledge. When epidemiology is introduced as part of such a curriculum, especially in Third World countries, the response is generally discouraging. Students find it difficult to grasp the relevance of the subject and consider time spent on it as being at the expense of other "important" subjects like surgery and medicine. This is reinforced by the fact that given existing role models very few students see themselves in career situations where the knowledge of epidemiology would be useful.

The burden on teachers to make epidemiology both relevant and interesting is thus very great. In one experiment at the Aga Khan University Medical College epidemiology was introduced as a general technique for effective thinking with application outside its specialised domain. A popular article of topical interest (on murder with hand guns) was used to transmit the key concepts of epidemiology.

With this mental attitude and knowledge student groups were encouraged to think through problems of their own choice which they could demonstrate were amenable to an epidemiological frame of analysis. Student response was very positive and an evaluation of the final reports yielded strong indications of the pedagogic potential of such an indirect technique of teaching.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 223 - S 224

The Definition of Educational Objectives on the Basis of Problem Solving Process in the "Curriculum Paralello Sperimentale" in the Medical School of Bari, Italy

Giuseppe De Benedictis
University of Bari
Bari, Italy

Abstract

The implementation of problem-based learning in a medical school course might be all the more fruitful if specific educational objectives are derived from each step of the problem-solving process. In the "Curriculum Paralello Sperimentale", a recently started parallel track in the Medical School of Bari, Italy, we are testing the educational effectiveness of a list of objectives prepared by teachers and students on the basis of the problem-solving process and medical professional tasks. Some examples of objectives are given below. The sentences in capitals represent the steps in the problem-solving process.

1. *TO COLLECT ALL DATA NEEDED TO ANALYZE THE PROBLEM*
   - *Collect the patient's history with...(problem) through...(pinpoint the source of information);*
   - *Detect by means of...(pinpoint: clinical examination, lab and instrumental tests, epidemiological survey, etc.) the single (or social and environmental) risk factors related to...(problem).*
2. *PUT FORWARD THE MOST LIKELY HYPOTHESIS ON THE BASIS OF ALL COLLECTED DATA*
   - *Put forward the most likely hypothesis on all causes and/or mechanisms of...(problem) on the basis of all collected data;*
   - *Rank all hypotheses on...(problem) according to their likelihood.*
3. *ASCERTAIN THE VALIDITY OF THE HYPOTHESIS PUT FORWARD*
   - *Prescribe or carry out...(pinpoint: lab and instrumental tests, epidemiological surveys, etc.) to ascertain the hypothesis on...(problem);*
   - *Interpret the results of...(pinpoint: instrumental and lab tests, etc.) prescribed and/or carried out in order to ascertain the hypothesis on...(problem).*

---

4. *MAKE AND IMPLEMENT DECISIONS IN ORDER TO SOLVE THE PROBLEM*
- *Make the diagnosis of...(problem);*
- *Prescribe or carry out...(pinpoint: the pharmacological and dietetic treatment, etc.) of...(problem).*

5. *ASCERTAIN THE VALIDITY OF THE DECISIONS*
- *Check by means of...(pinpoint: clinical examination, lab tests, etc.) the effectiveness and harmlessness of...(pinpoint: therapy, preventive measures, etc.) prescribed or carried out to treat...(problem);*
- *Detect the causes of failure of...(pinpoint: therapy, preventive measures) carried out or prescribed to treat...(problem).*

We believe that such a list of objectives may represent an useful guide for students and tutors in small group sessions as it is applicable to every kind of problem (clinical, biological, environmental, psychological, etc.), gives impetus to learning issues and makes it possible to enhance the problem-solving process learning from the first year of the medical course.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 225 - S 229

A New Approach to Community-Based Health Care and the Medical Curriculum

John H. Bryant, Camer Vellani, Salim Sohani, K.S. Khan and Rozina Karmaliani
The Aga Khan University
Karachi, Pakistan

Abstract

Two methods of developing community-based Primary Health Care have been tried by the Aga Khan University. In the method, which was used for the first four years, the University led the development. Community participation was achieved but consisted of somewhat passive involvement in the University's health service. The other method was introduced in 1988. The community led the development of the service and took decisions that was based on information which they had participated in gathering, advice from the university, an understanding of its capacity to afford the services it wanted, and a realisation of its ability to help itself. The community-led model of development contributed more fully to community development and provided a richer educational experience for students and staff than the university-led approach.

Introduction

The philosophy underlying the undergraduate curriculum for Community Health Sciences (CHS) at the Aga Khan University is that students learn how to relate to the community and how to develop appropriate health services through actual practice. The University is committed to developing PHC services in underprivileged communities and involves medical and nursing students, as well as its staff in and with the community.

This paper describes how students, staff and a community collaborate to develop a PHC service, and how special efforts to promote community decision making affect the nature of the service and the educational experience of students and staff.

The Undergraduate Curriculum for CHS

Each new class of 60 medical students is assigned to a community of 8,000 to 10,000

Requests for reprints should be sent to John Bryant, The Aga Khan University, Faculty of Health Sciences Medical College, Stadium Road, POB 3500, Karachi 74800, Pakistan.

people with which they work over a five year period. The conceptual framework for the curriculum is the community health planning cycle, and the students learn how to: 1) familiarise themselves with the structure and life of the community and to establish relationships of trust with the people; 2) measure health and demographic parameters, assess existing health services, and identify social, cultural and political factors that influence decision-making in the community; 3) carry out a household survey, and analyse the data and learn statistical and epidemiological methods in the process; 4) identify problems that affect health, and set priorities; 5) plan interventions; 6) create a PHC service that is based in the community and is directed toward the promotion of health and prevention of disease, using community health workers who are trained and supported by a community health nurse, a community health doctor, with students and Faculty members also involved, and 7) create and serve in a PHC clinical service, in which the staff of the departments of obstetrics and gynaecology and paediatrics also participated, and evaluated the service.

Development of PHC Services

The Aga Khan University admitted its first class in 1984. During the first four years, the University took the lead in the development of a PHC service at each field site. In order to assess health care needs, students and staff developed questionnaires, informed representatives of the community about their activities, and interviewed individuals in their homes. They analysed the data and formulated plans for intervention. Students and staff discussed their findings with the community and sought community agreement and participation for the implementation of their plans.

In this University-led approach we took the key decisions, and while the community participated it did not make the controlling decisions.

A different mode of participation by the community was introduced in 1988, when the entering class of students was assigned the island of Baba, in the natural harbour of Karachi. The community consists of a population of about 10,000, mainly fisher-folk who originate from Kutch, on the North West coast of India, and settled on the island more than 100 years ago. The objective in this instance was to encourage and support the community in making the key decisions in the process of developing PHC services.

The students spent time with the community to develop relationships of mutual trust and to set the stage for sharing responsibility for health system development. As students constructed their questionnaires for surveying community problems, the community was invited to contribute to the questionnaire. Students learn from their own data, as well as from comparison with data derived from other classes of students.

While the household survey provided indications of a number of problems, we believed it was important to ascertain the community's views of its major problems with an impact on health. In the ensuing dialogue problems were noted and a rating score used to indicate prevalence, severity, level of community concern and capacity of the community to solve its own problems. The items indicated a remarkably accurate perception of priorities for action (Table I).

As the results and other information became available, students and staff held discussions with leaders of the community's social organisation, a fisherman's welfare association, and with individuals in their homes and in tea shops. The students made a special point of returning to the community during evenings and weekends, so that working men would be available. It was important to include community folk who might not wish to speak during public meetings.

The leaders of the island meet periodically with staff and students to decide on interventions for better health. The role of the University is to serve as expert advisor and advocate for the community. The community makes its decisions in the light of relevant information. Thus, PHC development has become community-led, and decision-making by the community has established ownership of the problems and created an awareness of the community's capacity to help itself.

The community recently decided to immunise its children against poliomyelitis and requested that the University train volunteers from the community to do the immunisation. This was done, and the district health officer, who supplies the vaccines, was informed. Sometime later, after torrential rains, the district health officer requested the assistance of the volunteers to immunise the community against typhoid and cholera. After these immunisations had been completed, a political group sought the community's support and landed on the island with an offer of additional protection through further immunisation. The volunteers scrutinised the vaccines, as they had been taught to do, and noted that the expiry date had passed. They promptly and proudly warned the community, knowing that they had reached a new level of self-reliance.

Table I. Community Perception of Problems and Priority Assignment Baba Island Community

Problem	Prevalance	Severity	Community Perception of Priority	Community Capacity to Solve through Self-help
Uncleanliness	5	4	5	4
Water shortage	5	5	5	2
No place for burial	5	5	5	1
No maternity home	5	3	5	2
No lease for home	5	4	4	3
No government job	5	4	4	2
No proper jetty	5	2	5	2
Lack of education	5	4	2	2
Middle men in fishery	4	3	4	1
No emergency doctor	4	2	4	2
No constructed road	5	3	2	1
No play ground	3	2	3	1
No ambulance	3	1	3	1
Nothing against tuberculosis	3	2	2	1
Nothing against cancer	1	1	1	1

Conclusion

Compared with the University-led development of a PHC service, the community-led model has enriched the education of the students and staff by observation and participation in the dynamics of community organisation and action. Students have grown to appreciate the ability of a community to take rational decisions based on relevant information, its willingness to help itself, and the advisory role of a provider of health care. The community-led model has implications also for the new National Health Policy which calls for communities to have a voice in the development and functions of health services at the local level.

Annals of Community-Oriented Education
1990, Vol. 3, S 231

Teaching Clinical Competence in Pre-cCinical Years

Jan van Dalen
University of Limburg
Maastricht, The Netherlands

Abstract

Clinical competence is an area of medical education in which separately acquired elements need to be integrated. In Maastricht Medical School this integration takes place at a very early stage in the curriculum.

In the Skills lab in Maastricht, clinical competence is trained in a programme that can be described by its:

- *continuous character (first to sixth year);*
- *gradual increase of complexity of training topics (from basic skills to problem patients);*
- *gradual increase of practising situations (from videotapes via simulated patients to patients);*
- *small group teaching with frequent situations for practice*
- *feedback on actual behaviour;*
- *continuous interaction between theory and practice.*

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 233

Problem-Based Distance Learning

Charles E. Engel and Angela Towle
Wellcome Tropical Institute
London, United Kingdom

Peter Nyarango
Moi University
Eldoret, Kenya

Abstract

Distance learning is a method designed to enable individuals to further their professional development at home or at their place of work and in the absence of teachers.

This form of learning is largely dependent on written material which permits learners to meet their individual needs, provides sufficient intellectual stimulus to encourage and sustain self-directed learning, and enables learners to monitor their progress and evaluate their achievement in relation to specified objectives.

An experimental model has been developed which includes a set of learning objectives, a pre-test and model answers which refer to specific parts of the learning material in case the learner's answers prove to be deficient, and a post-test with model answers. The main body of the learning material has been designed in two different ways. A more or less conventional approach is contrasted with an attempt to foster problem-based learning.

The problem-based learning format presents a number of problem situations which may relate to individual patients or to communities. Each such problem is followed by a series of tasks where the learner is invited to carry out an actual task (e.g. construct a protocol) or to make a decision and to justify his or her answer. The learners are expected to study the nature of the task, to decide what they wish to learn before attempting to complete the task, to study the relevant reprint(s) provided, to apply their learning by answering the question or task, and then to check their answer against the model answer provided.

The two formats, using the same content (obstructed labour) are being compared for their respective acceptability, effectiveness and efficiency. Four countries in Africa and Asia participate in this comparative trial.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 235 - S 237

The History and Philosophy of Science and Medicine in Training the Physician

Jaime Escobar
Escuela Colombiana de Medicina
Bogota, Colombia

Abstract

In order to foster an active, critical attitude in the students of the Colombian School of Medicine, a course on the history and the philosophy of science and medicine has been built into the curriculum. The objective of the course is to confront the students with the origins, developments and structure of the concepts that constitute the basis of medical practice. Experience over 10 years indicates an influence on the way students look at medical practice and an improved coherence of the curriculum as a whole.

The undergraduate course of the Colombian school of Medicine is based on the biopsychosocial concept of the human being and maintains a close link with community health problems. The course has been designed at three levels which correspond to the levels of attention given to the population. The contents encompass psycho-social, bioclinical and community studies which are distributed throughout the twelve semesters. The course has been designed in this way because man is conceived as a bio-psychosocial being who is integrated in a community and requires satisfaction of his needs for health, because health is a fundamental component of social well-being.

The philosophy and history of sciences grew from within the school as a way of promoting the concepts that are being used as the foundation of medical practice and the different elements of the practice of medicine itself. The only way to achieve this goal was to integrate, structurally and organically, not mechanically, the humanistic and social contexts into the bioclinical medical teaching. Thus the curricular structure of the Colombian Medical School integrates these aspects with the other elements of the course (Table I).

Requests for reprints should be sent to Jaime Escobar, Escuela Colombiana de Medicina, Calle 134 No. 12-55, Bogota, D.E., Colombia.

Table I. Structure of the Course

First Level **4 semesters**	**Second Level** **2 semesters**	**Third Level** **6 semesters**
Sciences to acquire knowledge of healthy human beings	Sciences to acquire knowledge of sick human beings	Specialised practice related to organic and functional disease
Applied science in community health practice	Science in clinical practice and public health	Public health, Hospital practice
Primary care	Secondary care	Tertiary care
Knowledge of a healthy human being and mental aspects	Sciences for mental illness	Specialised practice for mental illness

The third level emphasizes investigation where the student learns how to find information that allows him to begin to solve his own problems. The ninth semester is dedicated to medical anthropology and the tenth to ethical problems.

Experience over ten years is being evaluated. The results are promising, even though many of the goals have not been achieved. Not all the teaching staff and students have accepted change towards a new practice of medicine. With this curricular structure we intended to cover the three aspects of man: the biological, the psychological and the social. The teaching is structured as a continuing activity during ten semesters and occupies four hours each week. The teaching is in a constant relationship with all other studies. There are three levels that mark a difference of its complexity and profundity; these levels correspond also to different types of content. At the first level, an introduction, the student is to develop reading habits with a critical attitude to the text, and to engage in considered discussion. The first semester is dedicated to reading and discussion of medicine, its knowledge and its practice. The second semester focuses on history and its relation to medicine.

At the second level, third to seventh semester, the student acquires basic information, continues to develop critical reading skills and begins to understand the requirements of research. At this level the history of medicine and its social and cultural contexts are introduced. The doctor-patient relationship has improved. Professional scientific excellence is reinforced and complemented by the contribution of epistemological reflexion. Creativity and interest in the investigation of phenomena found in every day practice are also awakened. In other words, the scientific, technical foundation becomes the means, and the social and human formation the reason.

If we were to draw some recommendations from our practical experience we would propose: active participation by teachers and students is fundamental to the successful conduct of a programme of human and social sciences in professional education; the programme should include interdisciplinary characteristics that allow interrelation of the profession with other branches of knowledge, without debasing scientific and technological education, and recognising the importance of each discipline; the process must permeate the curricular structure, not as an afterthought that appears trivial to the students; the humanisation of professional practices is not achieved through sentimental calls for good behaviour, but through the active study of history and philosophical reflexion; the different humanisms should be examined, because professionals cannot ignore the ideological beliefs in today's society; constant vigilance is needed to ensure that the curriculum is adapted to changing circumstances; there should be active participation in historical investigations, not passive and critical acceptance, and participation in every day community life to explain theoretical concepts through real facts should be encouraged, and assessment must include the complete programme of each semester and not isolate the professional from the social and human education.

Faculty Mentors for Medical Students

Dale H. Flach and Neil R. Nelson
University of Illinois College of Medicine at Rockford
Rockford, U.S.A.

Abstract

The Faculty Mentor Programme, now in its sixteenth year, offers a unique opportunity for faculty involvement as well as providing support for medical students. The goals of the programme are for the mentor to: (1) serve as a role model; (2) serve as a senior colleague to share insights on being a physician; (3) serve as a faculty resource to assist with academic, personal or career matters; and (4) serve as a supportive friend to be instrumental in the growth and development of medical students.

The Faculty Mentor Programme provides medical students with a personal link to the field of medicine and the local community. Faculty participation is voluntary and provides the opportunity for each student for continuous contact with a member of the faculty. The concept of a one-to-one faculty to student relationship has unlimited potential if the development of a meaningful friendship is encouraged, fostered and, in turn, realised. Serving as a mentor is included as one of the criteria for faculty promotions. This enables a mentor to gain recognition for making available their time and skill to provide a service to students in the form of general advising and counseling.

The Faculty Mentor Programme is intended to facilitate the transition from medical student to professional colleague. Students, who also volunteer to participate in the programme, tend to make less than the optimum effort to develop a relationship with their mentor. This compromises the benefits which can be gained by the student, however, the mutually high regard which mentors and students have for each other serve as the basis for a potentially strong relationship.

The Faculty Mentor Programme can readily be implemented at any medical school in any setting, traditional or community-based, at a minimal cost. Both the faculty of the medical school who serve as the resource people and medical students can benefit from participation in this programme.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 241 - S 242

Health Services Research Data-Base: A Prerequisite for Developing Curriculum in Primary Care

Mohan L. Garg
University of Illinois College of Medicine
Chicago, U.S.A.

Craig E. Booher and Richard G. Christiansen
University of Illinois College of Medicine at Rockford
Rockford, U.S.A.

Abstract

The deregulation of the United States health care industry by the federal government in early 1980s and subsequent financial restructuring has greatly affected the health care delivery system. The patient care site is being continuously shifted to non-hospital settings, and the primary care physicians are emerging as the main gate-keepers for the provision of health services. As a consequence of this, fewer patients are being admitted to the hospitals and the average hospital stay has declined considerably. The medical educators are therefore facing the problem of identifying appropriate ambulatory sites for clinical training of medical students and residents. However, a majority of medical educators are reluctant to move a substantial portion of clinical training to ambulatory sites because of their concern about the clinical contents of the patient encounters at ambulatory sites, competence of the preceptors, and lack of appropriate methodology to monitor students' acquisition of clinical knowledge and performance.

The present paper therefore utilises the health services research data-base to address the issue of clinical contents of patients at ambulatory sites and elaborates on its applications to issues such as evaluation of the clinical performance.

The data for the present study consists of patient encounters, during 1984-1988, at the three community health centers operated by the University of Illinois College of Medicine at Rockford. The community health centers are staffed by internists, family physicians and pediatricians and are the principal sites for clinical training of medical students in delivery of primary care. Currently, 20% of the undergraduate clinical curriculum is devoted to experience in ambulatory settings, i.e. students spend two half days weekly at the assigned community health center during their entire clinical rotations. After each encounter, a summary data is captured in the

computer and is stored for billing purposes and other activities. The three major components of these records are: patient and provider characteristics, financial information, and diagnoses and procedures. Since physicians and surgeons in the United States classify each and every service they provide to patients according to the Current Procedural Terminology (CPT-4), the codes provide an excellent source of information to understand the nature of the clinical contents of each encounter. For the present study 41,260 patient encounters, with the graduating class of 1987 and 1988, under supervision of the attending physicians and 61,245 patient encounters with only the attending physicians are selected for analysis. The selected period includes 1986-1988 and represents the total clinical experience of the two graduating classes (six months of sophomore year and twelve months each for junior and senior years).

Of the several thousand procedures under CPT-4, about 700 are commonly used in the primary care office settings. Therefore, procedure clusters were specifically developed to group similar entities and to reduce a large number of codes to more manageable proportions for analysis. These procedure clusters include 12 major categories, 28 minor categories and 234 items. Similarly, the diagnoses have also been re-coded according to the codes developed by the National Center for Health Statistics for its National Ambulatory Care survey.

The analysis will address the following issues:

1) identification of an optimum data-base of the health services research capable of providing medical educators the necessary information about the clinical contents of the students' encounters with patients in primary care with special reference to what the students do to patients in a group of diagnoses with given level of severity; 2) the extent of severity of medical conditions seen in the ambulatory settings which will include office visits, patients seen in nursing homes and homes of the patients; 3) an assessment of the loss of productivity as a consequence of medical education; and 4) presentations of a methodology that may be used to monitor students' performance.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 243 - S 246

Application of Learning Principles in Problem-Based Learning

Fatma Hassan and Esmat Ezzat
Suez Canal University
Ismailia, Egypt

Abstract

This study investigated the application of key learning principles in problem-based learning (PBL). A questionnaire was used to study students' perception of the medical school's application of learning principles.

The students perceived that the school encouraged them to be open-minded and helped them to understand complex relationships. However, they were slightly less positive about the school's approach to help them to use educational resources and facilitate learning. Deficiencies in the conduct of assessment led to the conclusion that more staff training would be necessary.

Introduction

Educationalists have emphasized a number of principles which should be applied in any learning process. Principles, such as learning how to learn (Rogers, 1969), being open-minded, understanding complex relationships, and appreciating another person's view point, are related to the learning process itself. In addition, Foley and Smilansky (1980) and Neame and Powis (1981) discussed the importance of active participation by the learner and to appreciate the relevance and significance of what is to be learned. Other learning principles are related to offering instructional resources and facilities in a context that is similar to that in which the future professional will practise and the importance of using appropriate methods of assessment to promote independent learning (Neame and Powis, 1981).

The Faculty of Medicine/Suez Canal University (FOM/SCU) is a community oriented medical school with a problem-based curriculum. Schmidt (1983) considered that problem-based learning is based on three educational principles: activation

---

Request for reprints should be sent to Fatma Hassan, Suez Canal University, Faculty of Medicine, Ismailia, Egypt.

of prior knowledge, providing a learning context, as close as possible to the future professional context and helping students to assess their own knowledge. The authors postulate that the above principles should be applied in PBL. The purpose of this study was to determine the students' perception about the extent to which these learning principles were applied by the medical school.

Method

A questionnaire was designed to elicit the students' responses to twelve items concerned with key learning principles. The scoring system was on a 5 point scale, with 5 indicating highest agreement and 1 least agreement. The questionnaire was distributed to all 388 students in the School.

Results

Two hundred students answered the questionnaire. Table I shows that the students felt that they were active participants and responsible for their own learning. They also agreed that they learned how to learn and that the learning process gave them a chance to appreciate the other person's view point. However they were less convinced that they were given a chance to understand complex relationships.

Table I. Students' perception of application of learning principles by the Medical School

Items	**Number of Respondents**	**Average Rating ± S.D.**
I am an active participant in the learning process and not a receiver	199	4.22 ± .85
I am learning how to learn	199	4.16 ± .88
I am entirely responsible for my learning	198	4.24 ± .95
The learning process allows me to appreciate the other person's point of view	199	4.07 ± .67
The learning process gives me a chance to understand complex relationships	198	3.97 ± .72

The students agreed (Table II) that they were allowed to learn and practise repeatedly and in different situations. However, they agreed only to some extent that they learned through using different instructional methods. They agreed to a lesser extent that they were provided with repeated demonstrations of required performance, that they were given the resources needed to facilitate learning.

Table II. Students' perception of application of learning principles related to educational resources

Items	Number of Respondents	Average Rating ± S.D.
I am given a chance to practice repeatedly in different situations	200	4.26 ± .55
I am given the opportunity to learn through different instructional methods (discussions, lectures, seminars, demonstrations, patient encounters)	200	3.98 ± 1.01
The Medical School offers me repeated demonstrations of expected performance	196	3.77 ± 1.11
The Medical School supplies me with the necessary resources for learning (objectives, list of references, experts)	199	3.47 ± 1.28

The students were not quite sure (Table III) that they received appropriate feedback of their progress. They gave a low rating when asked whether faculty members used appropriate methods for assessment.

Discussion

PBL is characterised as being student-centered (Barrows and Tamblyn, 1980; Schmidt, 1983). Our students perceived themselves as active participants, responsible for their own learning and learning how to learn, so that it can be concluded that the Medical School does apply the appropriate learning principles to a considerable extent.

The study revealed that the Medical School applies to a fair extent the learning principles related to using different educational resources and facilitating the

Table III. Students' perception of the application of learning principles related to assessment

Items	Number of Respondents	Average Rating ± S.D.
I receive encouragement or criticism about my performance in an appropriate way	197	3.13 ± 1.28
Faculty members use appropriate means for assessment	193	2.78 ± 1.25

learning process. The students agreed that they were given the chance to practice repeatedly and under different circumstances; they encountered cooperative and non-cooperative patients in the primary health centres. The students gave low ratings to items related to assessment. This could be due to the difficulty of assessment, especially in PBL. Training of Faculty members in methods of assessment might help to overcome this deficiency.

References

Barrows, H.S., & Tamblyn, R.M. (1980). Problem-*based learning: An approach to medical education*. New York, NY: Springer Publishing.

Foley, R.R., & Smilansky, J. (1980). Instructional design. In: R.R. Foley, & J. Smilansky (Eds.). *Teaching techniques*. New York, NY: McGraw Hill, Inc.

Neame, R.L.B., & Powis, D.A. (1981). Toward independent learning: Curricular design for assisting students to learn how to learn. *Journal of Medical Education, 56*, 886-893.

Rogers, C.R. (1969). The interpersonal relationship in the facilitation of learning. In: C.R. Rogers (Ed.). *Freedom to learn*. Ohio: Charles and Merville Publishing Co.

Schmidt, H.G. (1983). Problem-based learning. Rationale and description. *Medical Education, 12*, 11-16.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 247

Role of Laboratories in Community-Based Medical Programme and its Impact in Integration between Community Health and Health Science

Khalifa I. Khalifa
Suez Canal University
Ismailia, Egypt

Abstract

The process of medical education in our faculty is based on the integration between the different medical and health sciences. In addition, this process is more developed by student's projects, family visits and elective studies. The role of the laboratories is important in clarifying the role of medical science and their connection to health service. The quality of students' skills was improved and developed in the laboratory work during students' projects and elective studies, because the students do all procedures by themselves. During these projects and elective studies a good health service is introduced to the community. By this study we can conclude the important role of laboratories in health service in a community-based medical programme.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 249

Comparing Detailed and Concise Checklist as a Tool for Evaluation of Clinical Skills

Somaya Hosny Mahmoud, Yaser Elwazir and Taymour Khattab
Suez Canal University
Ismailia, Egypt

Abstract

This study was designed to compare two groups of developed checklists. Each group consisted of three skills: chest, breast and vaginal examination. The first group encompassed long checklists containing a detailed description for each skill. The second group had short checklists which contained only the important aspects of each skill.

The comparison was done by testing the inter rater agreement between observers on items. The group which showed high inter rater agreement was considered to be well developed.

Thirty students and twelve raters participated in the study: ten students were evaluated in each skill. Each student was observed by four raters; two using the short checklist and two using the long one.

Analysis of data showed that there was no significant difference between the detailed and the concise checklists.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 251 - S 256

Electives and Writing a Scientific Paper

S.F. Knutsen, A. Tollan, J. Magnus and O. Grundes
University of Tromsø,
Tromsø, Norway

Abstract

The School of Medicine of the University of Tromsø, Norway, offers 20 weeks for electives within its curriculum. The last period of 12 weeks is devoted to writing a thesis. The present study indicates that students appreciated the electives, particularly if spent outside the School. In comparison with graduates from universities in the South of Norway, a significantly larger number of Tromsø graduates was involved in research.

Introduction

From its beginning in 1973, the Medical School at the University of Tromsø aimed to give the medical students time in which they could penetrate into specific areas of interest. There was also agreement that medical students should be given better scientific training. Therefore, two elective periods consisting of four weeks each were included in the second and fourth year of study. In the fifth year, the students were given twelve weeks in which they were required to write a thesis on a medical topic of their own choice. During the two four-week elective periods, the students could choose to participate in programmes in the School of Medicine or make arrangements of their own at other Norwegian or foreign hospitals, medical schools or health care systems. Their programme had to be approved by the Board for Elective Studies, and the students had to submit a written report after completing the elective.

We have studied the written theses, the use made of elective periods, and the type of elective, in order to evaluate the educational value of the electives.

Material and Methods

The evaluation is based on three separate studies:.

Thesis. With the first ten groups of medical graduates we used personal inverviews

---

Requests for reprints should be sent to Synnove F. Knutsen, University of Tromsø, School of Medicine, Postboks 417, Tromsø 9001, Norway.

and records kept at the Office of the Medical Education Committee. The graduates were asked whether their thesis had been published and which Department had been responsible for advice during the writing. The information was also checked against the records in the Office of the Medical Education Committee.
Elective periods. We studied the use of elective periods for three consecutive years (1985, 1986, 1987). A total of 78 students answered a questionnaire on how they had used the elective periods and their judgement of them.
Type of work. A comparison was made of medical students from universities in South-Norway (N=576) and Tromsø (N=193) who graduated in 1979 and 1980. Information on who graduated from where was collected from the four Medical Schools in Norway. Place and field of work as of June 1986 was collected from the public register of Norwegian physicians.

Results

Thesis. During the first two years, students tended to select topics from community medicine for their scientific paper to a greater degree than in some of the more recent years (Figure 1). On average, 25% of the papers have been published (Figure 2). During the first two year, male students tended to have published their thesis more often than females. No significant differences were registered in the following years (Figure 2). Female students have tended to select topics from clinical medicine more often than from basic science; the opposite is true for male students.

Elective periods. Thirty-three students (42.5%) selected programmes within the School of Medicine; the remainder made other arrangements in Norway (N=33) or abroad (N=12) (Table I).
The most satisfied students were those who had made arrangements with places outside the School of Medicine. None of the students were dissatisfied with the elective period (Table II).
Some of the students who went abroad during their first elective, went back during their second elective and wrote their thesis from data collected during the two previous elective periods.

Type of work. A larger proportion of graduates from the South, were working in hospitals (47.7% vs 36.8%) compared to Tromsø graduates. A larger proportion of the Tromsø graduates were doing research (10.9% vs 3.0%). There was no difference in the proportion of Southern or Tromsø graduates who elected general/family practice or community medicine.

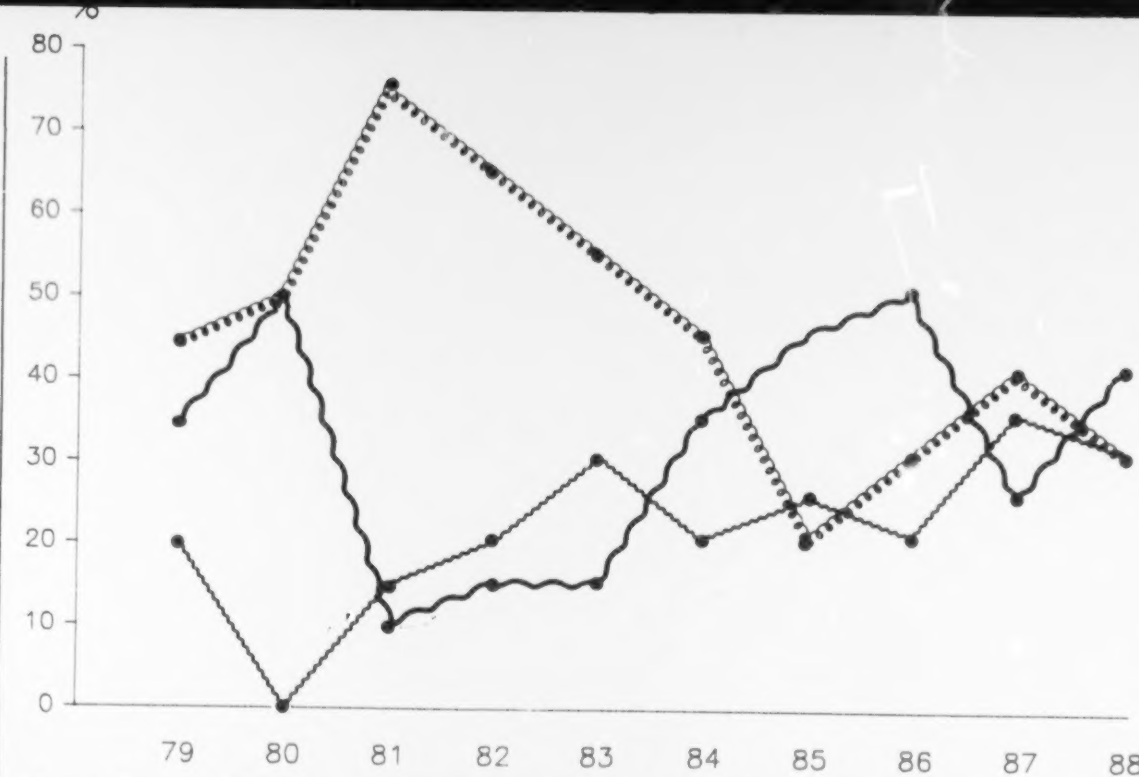

Figure 1. Proportion of scientific papers written by students during their elective according to the Department responsible for advising the student

Legends to figure:

ℓℓℓ Department of Clinical Medicine; 〰 Department of Medical Biology; ∼ Department of Community Medicine

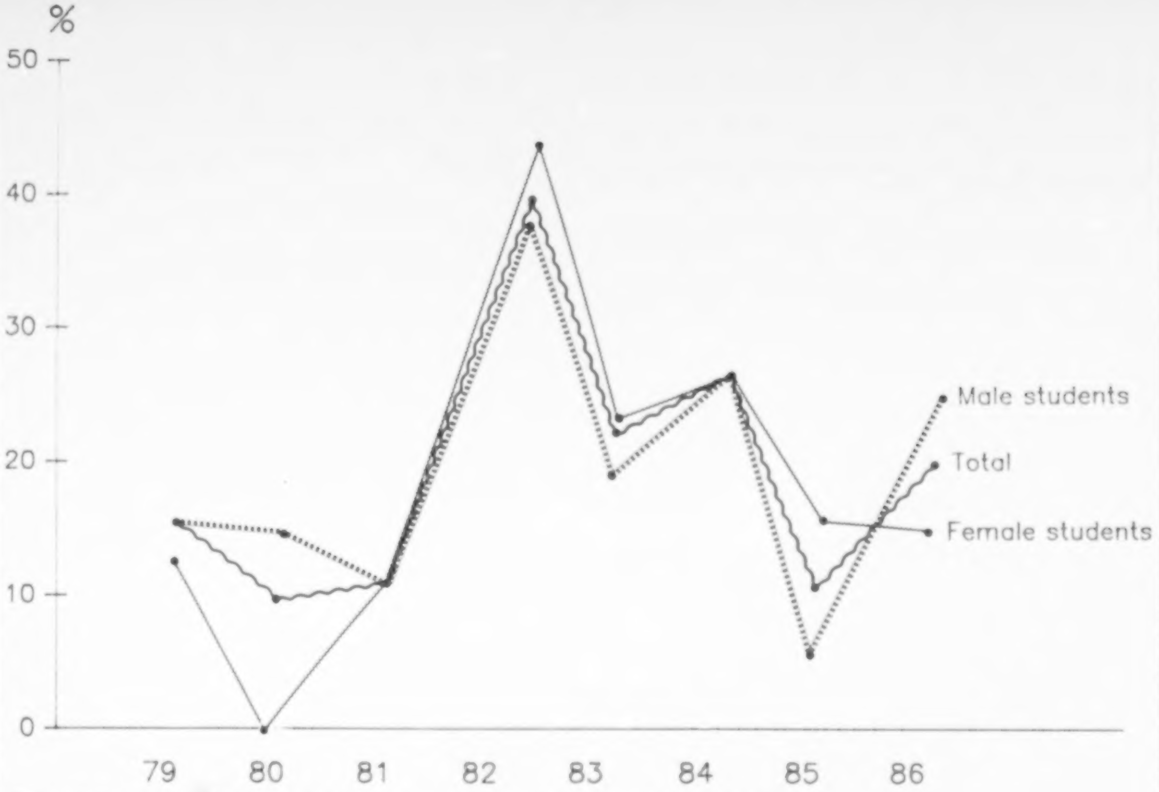

Figure 2. Proportion of published scientific papers written by students during their elective

Legends to figure:

┈┈┈ Department of Clinical Medicine; —— Department of Medical Biology; ∼∼ Department of Community Medicine

Table I. Location of the elective in the second year

Site of elective	**(N=78)**
Pre-arranged programme at Tromsø	42.5%
Elsewhere in Norway	42.5%
In other countries	15.0%

Table II. Perception of the elective during the second year

	At the School of Medicine Tromsø (N=32)	**Abroad/other places in Norway (N=45)**
Very good	64%	95%
Medium	36%	5%
Dissatisfied	0%	0%

Discussion

The experience of students and teachers with elective periods and thesis writing is positive. We believe that both thesis writing and elective periods give the students a unique opportunity to become more deeply involved in special areas of interest. We see a definite link between the requirements of thesis-writing and the high proportion (10.9%) of Tromsø graduates who go into research.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 257

Comparing the Content of a Medical Curriculum with Primary Health Care Data

Job F. Metsemakers, Peter A. Bouhuijs and Hetty A. Snellen-Balendong
University of Limburg
Maastricht, The Netherlands

Abstract

The relevance of medical curricula is a general concern in medical education in view of current and future health needs. Medical schools therefore need to consider health care data when defining the content of their curriculum.

As a first step towards that process we decided to compare primary health care data with our problem-based curriculum. During the first four years the curriculum is divided into 21 blocks of six weeks' duration. The content of each blockperiod is centered around one medical theme, e.g. Blood loss. Complaints and problems presented in the study tasks were classified with the International Classification of Primary Care, allowing a more direct comparison with regional health care data gathered in the Registration Network Family Practices. Eleven family practices have participated in this health information system in the southern part of The Netherlands. The computerised registration instrument is based on the principles of the Problem-Oriented Medical Record. Data from the problem list are re-coded with the International Classification of Primary Care.

Results of this comparison and its consequences for curriculum construction will be discussed.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 259 - S 263

Innovation in Oman

John Musgrove
Sultan Qaboos University
Muscat, Sultanate of Oman

Abstract

The development of an undergraduate medical course in a developing country may be faced with apparently opposing goals. On the one hand the need to have the final degree recognised internationally and on the other meeting the health care needs of the country.

To produce doctors who are community-aware and who have a portion of their training in the community where health workers are scarce and where those who are trained are almost all expatriate, presents special problems. In a small country, close cooperation is needed between the producers of health workers (universities and health institutes) and the subsequent employer of those workers (Ministry of Health).

The development of the undergraduate medical curriculum at Sultan Qaboos University in Oman and the integrated programmes involving the College of Medicine and the Ministry of Health are described and discussed.

The Country

Oman really entered the twentieth century in 1970 when H.M. Sultan Qaboos bin Said successfully took over from his father. Since then, and because of a high income the infrastructure of a modern country has been established. In 1970 there was one hospital (run by an American missionary society), 900 school pupils, and it took one day to drive from Muscat to Seeb where the International Airport is now established. At present there are 50 hospitals, 80 health centres including the Royal Hospital of 500 beds opened in 1987, and a 500-bed University Hospital which is to start taking patients in November 1989. There are now about 280,000 children at school, and it takes only 30 minutes to travel from Muscat to Seeb.

Requests for reprints should be sent to John Musgrove, 6, Stratford Street, Christchurch, New Zealand.

The University and Medical College

Planning for the new University started in 1982 and for the hospital a year later. The first students entered the University in September 1986, and the hospital is due to open in November 1989. This will give some idea of the pace of development.

The Foundation Committee, charged with planning the University, stated interalia. "While medical graduates of all kinds are required, the greatest identified need in Oman is for doctors trained in the demanding role of the community and family physician which is in itself a specialty. In response to this need, it is the aim of the College to assist the student to acquire the highest level of knowledge and skill emphasizing the prevention of disease, health maintenance and therapy. As well, the student must learn how to provide services in an ethical and humanitarian manner, compatible with the planning of the Ministry of Health and appropriate for the people of Oman".

However, in a developing country it may be difficult to ensure that some of the goals are compatible. On the one hand there is a desire to have a degree recognised internationally. On the other hand there is a need to develop a course whose graduates can meet the needs of the country where the health care system has only recently been developed.

The Course

The course in Oman is being developed by academics from many parts of the world, and you might expect a western-type programme. We have a dean from Canada and Heads of Departments from Sweden, Denmark, Tanzania, The United Kingdom and New Zealand, as well as from Oman. However, with the creation of joint appointments of doctors who are employed by the Ministry of Health, we have a good input from those who are already engaged in service work in Oman. To ensure that the degree will be recognised, auditors have been appointed who are eminent doctors associated with the American Association of Medical Colleges, the Canadian Medical Council and the Accreditation Committee of the General Medical Council of Great Britain.

Our students are involved in community studies from the very first year of their seven-year course. At various stages in the course they will act as health workers in a country where health workers are scarce and, at this time, expatriate. While they are involved in community studies, supervision is by staff of both the University and the Ministry of Health with whom we work very closely. This has benefits for both organisations, as the producers of health workers and the subsequent employer are both involved in the training programmes. During the pre-clinical course several "electives" are available for the students to give them a very basic medical knowledge, and one of these —First Aid/CPR— has now become a "compulsory elective". This is run in cooperation with the Medical Education Unit of the Armed Forces and staff of the Accident & Emergency Department of the Royal Hospital.

Table I. College of Medicine - Courses

Year 1	**Year 2**	**Year 3**	**Year 4**	**Degree**
Foundation Science Course	Consolidation Course	Basic Medical Course	Basic Medical Course	B.Med.Sc
Year 5	**Year 6**	**Year 7**		**Degree**
Clinical Course	Clinical Course	Clinical Course		B.M., B.S.

Table II. College of Medicine - Curriculum

Year 1	**Year 2**	**Year 3**	**Year 4**
English Biology Chemistry Physics Maths Earth Sciences Isl. Studies Arabic	English Biology Chemistry Physics Statistics	Anatomy Physiology Biochemistry Behavioural Sciences	Anatomy Physiology Biochemistry Behavioural Sciences Pharmacology Pathology Microbiology
Community Health	Community Health	Community Health	Community Health

Table III. Family and Community Health

Year 1	Year 2	Year 3	Year 4
Trachoma	Dental Health	Health Education	Nutrition Epidemiology
	Traditions & Relationships		
		Community Studies	Community Studies
	Biostatistics		
Year 5	**Year 6**	**Year 7**	
——————Family Medicine——————			
——————Community Studies——————			

The first community study is at the end of the first year, in the Summer when the temperatures are in the high 40 C. The students have three days of seminars in which they are introduced to epidemiology, census-taking, the immunisation programme and the form, function and disorders of the eye with special reference to trachoma. They practice by role playing. They then go to a village and, finally, they enter data into computers. This is used as a basis for their statistics course in the third semester. The heat and dust melt students and supervisors into a very cohesive group.

The second study is in the winter, again during the students' vacation, and temperatures are in the high 30 C's. On this occasion a study of dental health, a random study of trachoma and investigations of medical anthropological subjects of their own choosing are undertaken. An option is given to the students during the second summer vacation to be attached to doctors and nurses in hospitals, preferably close to their own homes. There they learn about patient care. Although they have no medical knowledge, they can act as patient advocates and help interpreting between patients and expatriate staff. Many students are involved in this option as they find the summer vacation rather long.

In the third year students are involved in health education and community studies. In the health education course students develop health topics for presentation to people in "their" village.

The community studies involve monthly visits to "their" village where data are obtained about health problems, and plans are made to try and deal with those problems. Indigenous healers, childhood accidents, and care of the handicapped are some of the problems, and there is great cooperation with the local Ministry of Health personnel.

Nutrition and epidemiology are courses in the fourth year, and community studies continue.

Conclusion

The course is certainly community-oriented, but will this have an effect on the graduates' vocational choice ? There are many factors which must be considered, if we are to achieve our goals in Oman: 1) there must be incentives involving status, salary and facilities to make positions in family medicine attractive; 2) approximately half the class are female, so we must look at the role of women in a Muslim country; 3) two 500-bed hospitals in the capital city may be more attractive than a village health centre, and 4) however, family ties in Oman are very strong, and Omanis show a great sense of responsibility for their family, tribe and community. This may encourage some graduates to return to work to their own areas .

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 265 - S 269

Problems of Management in the Initial Period of Implementing Educational Change

Sharifah H. Shahabudin
Universiti Kebangsaan Malaysia
Kuala Lumpur, Malaysia

Abstract

Since 1987, the Medical School of the University Kebangsaan Malaysia has adopted problem-based learning and has implemented an organ/system based curriculum. The nature of the problems encountered indicate that curricular change involves more than just improving the content, students' learning and assessment. A lot of energy must also be spent on keeping things going, on keeping staff motivated, making sure the work gets done, and weighing new solutions and identifying new problems. Ongoing activities include continuous reeducation for teachers, administrators, and students, mobilisation of physical resources, and introducing or reorganising administrative policies, rules, procedures and practices. In ensuring the continuance of change it was important to consider from the outset the institutionalisation of policies, programmes, procedures and practises for continuing reward, institutionalising practices, structural integration in the system, continuing evaluation, and providing for continuing maintenance of both staff and process of the new curriculum.

Introduction

The University Kebangsaan Malaysia (UKM) Medical School is in the third year of its curriculum change. In 1987, it implemented an integrated organ-system approach, using problem based learning as one of the major strategies. The school has grappled with the problems of introducing change and the school has now to contend with the problems of maintaining the continuance of change and system self-renewal. In this initial period of implementation, many problems have emerged which have the potential to thwart continuation and further development.

This paper highlights some of the problems encountered in the first three years and

---

Requests for reprints should be sent to Sharifah H. Shahabudin, Universiti Kebangsaan Malaysia, Faculty of Medicine, Jalan Raja Muda, Kuala Lumpur 50300, Malaysia.

discusses the steps that were taken to remedy them. These problems were identified in two ways: during the implementation process; and during programme evaluation. The problems were categorised and are here discussed using the model for ensuring continuance of innovations (Havelock, et al., 1973).

Reward System

Doubts still lingered as to whether we were doing the right thing. Even when teachers were convinced that the change was for the better, they were unsure whether their efforts would be appreciated. Positive reinforcement is the most important influence on human behaviour. Lecturers must feel that their participation will pay off in one way or another and that it will continue to do so. Hence rewards must be made visible and continue to be visible. The Faculty was helped by the following actions.

Promotion. Soon after the implementation of the new curriculum, selection for promotion to Associate Professor was undertaken. The Dean insisted that contribution to educational development would be one of the criteria for promotion. Even if it were sheer coincidence, it was a fact that module coordinators who were eligible received their promotion. In addition, one of the more active lecturers was promoted to Deputy Dean for Academic Affairs and was subsequently promoted to Professor. Another promotion exercise is underway, and this time the Dean has institutionalised peer review, so that contributions to curriculum development can be seen to be assessed.

Information on Students' Performance. Students' improved performance was demonstrated by the achievement of the objectives of the new curriculum. The first batch of students had entered the clinical years. We were fortunate in getting an abundance of complimentary comments about their ability and how they were "different" from previous groups. This was duly recorded at curriculum and Faculty meetings. In addition, results of examinations showed vast improvement in academic performance.

Video recordings of students enjoying problem-based learning sessions were made available. Whenever possible, actual demonstrations were also arranged. Wide publicity was also given to student-initiated problem-based learning projects, such as the problem solving competition for new students and an experiment with problem-based learning for an inter-professional student group.

Continuing approval by authority: " someone up there really cares". The Faculty management provided continuing leadership and support for change by providing time, money (for development, implementation and maintenance) and appropriate rewards, as well as willingness to make room for the change.

Practice and Routine

It takes time to become familiar with the changes in the curriculum. Some teachers felt awkward even when they believed in the change. For example, many lecturers were uncomfortable in facilitating problem solving sessions because they felt that they lacked knowledge in the subject matter. Some were still referring to Anatomy, Physiology, and so on as courses in the first year rather than naming the relevant *integrated* modules. Consequently many had difficulties in allocating assessment marks which were now module-based, rather than discipline-based. Many became disorientated in the flexible timetable, when in the past their departments had fixed periods in the week for their teaching activities.

Actions taken included a number of interventions. Lecturers who had doubts were encouraged to express their thoughts and feelings. Once these were in the open, it was easier to work through them. Most of these doubts (e.g. are self-learning packages more effective than lectures ?) are now incorporated in the programme evaluation study. Nobody was blamed; new ways do not come easy. Time must be given for people to make the new curriculum a routine part of their everyday life. At the same time interest was sustained by providing basic information about the curriculum through the wide dissemination of materials such as module guides, self-learning packages and problem kits.
Semester timetables were drawn up in detail and given to each lecturer.
Lecturers were also kept up to date with information about innovations elsewhere.
Support was given to lecturers in terms of helping them to evaluate their experience and to provide further training to make faster adjustments to the new situation.

Structural Integration

For curricular innovations to last they must become a part of the way of life of the Faculty, embedded in everyday behaviour. Hence there must evolve procedures and practices which are integrated within the existing structure. Problems, which arose from inadequacies in existing procedures and incompatible practices, were the most numerous and commonly encountered.

Unclear Lines of Authority and Responsibility

When the new curriculum was adopted, a new group of managers, called module coordinators, was created. These coordinators, working with a multidisciplinary group of teachers, were responsible for module planning, implementation, student assessment and course evaluation. However, the head of each department was still administratively responsible for the implementation of the segment relevant to that department, e.g tutorials and practicals were organised by departments. Problems arose when the head, relegated their tasks (e.g finding replacement lecturers in emergencies, vetting questions specific to the discipline, checking accuracy of information in self-learning packages) to the coordinators.

Noisy Channels of Communication

An interesting phenomenon was distortion of information originating from the same source but carried by different channels of communication. In this new curriculum, messages from a lecturer can be channelled through his head of department or through the coordinator. Similarly a lecturer may receive conflicting messages from the head of department and coordinators. While the new curriculum was breaking down departmental barriers it was also opening up too many channels, at times resulting in overcommunication. Communication problems are recognised as a major potential for conflict.

To remedy these problems, three actions were taken. A "Guide to the Implementation of the Integrated Curriculum" was formulated and given to every lecturer and administrator. This guidebook spelt out duties and responsibilities, from the Dean's Office to the individual lecturer. The Faculty had to evolve new structures for discussion. A subcommittee of the Curriculum Committee was established to deal with matters relating to the first two years of the medical course. All heads of department, module- and assistant coordinators were members of this committee. Computers were installed in every department, and the Dean's Office was blessed with a local network. In addition, programmes for the mainframe at the computer centre were tailor-made for the new educational needs. A Committee was also established to look into the use of the computer for educational purposes. The presence of computers has facilitated the production of learning materials, record keeping and general administration of the curriculum.

Providing for Maintenance

Just as newly installed machines can break down or be misapplied and someone is need to fix them or to show how they should be used, curricular innovation requires a maintenance system whereby someone or some group of people are available to show where the change went wrong and how to put it right. Dependence on "external" support for maintenance is inappropriate. Provision for maintenance is essential because inability to correct errors and breakdowns rapidly breeds distrust of the process. Rapid spread of negative reactions and rumours will quickly erode the acceptance of the change. Some of the actions which facilitated maintenance of staff in this environment of change are set out here. The Medical Education Unit was upgraded to a department with the recruitment of more staff and purchase of new equipment. This was to provide more efficient production services, teacher training, and research and development in curriculum planning, change process, problem-based learning and continuing education.

Faculty leadership at the level of the Dean's Office has not changed since the introduction of the new curriculum. This was probably the singular most important factor in the maintenance of the change.

Continuing Evaluation

Repeated inspection and evaluation of the change insured against slippage in the quality of the change. In addition, evaluation provided an added incentive and reminder that the curricular change was still in operation. Evaluation was carried out at two levels: a self-conscious objective inspection, reappraisal and monitoring; and through a programme evaluation project. The latter was planned and conducted by the lecturers themselves. Issues of concern were raised by a brainstorming technique. The issues were then discussed in more detail, and methods of investigating them were identified. The lecturers adopted the strategy that appealed to them most, either opinion survey, analytical studies of test data, examination of documents, or experimental studies.

Reference

Havelock, R.G., & Havelock, M.C. (1973). *Training for change agents.* Ann Arbor, MI: University of Michigan.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 271 - S 272

Multi-Professional Education of Health Workers in Nepal

Madan P. Upadhyay and Jimmie Tamsang
Tribhuvan University
Kathmandu, Nepal

Lal K. Gurung
Nursing Campus
Birgunj, Nepal

Abstract

Some examples of multi professional education of health workers as practised in Nepal are described. The Institute of Medicine trains different categories of health workers ranging from primary health care workers to specialists in the field of public health, biomedical sciences, nursing and traditional medicine. ("ayuerved") Supporting this structural basis is a single faculty board with representatives from each of the above mentioned disciplines from both academic and service sides.
Medical students and nursing students spend varying lengths of time in the community implementing joint programmes during a part of their experience.
Auxiliary nurse midwives and community medicine assistants (both primary health care workers), although trained in two separate schools, spend one month together conducting community diagnosis and implementing health development programmes.
Common lectures on special topics like AIDS, asepsis in operating rooms, and parasite control in the community are other examples of multi professional education at this institute.
Postgraduate residents in radiology and ophthalmology hold bimonthly joint training sessions supervised by faculty from both disciplines. Ophthalmology and anesthesiology residents, otolaryngology and radiology residents similarly hold joint learning sessions.
Medical students and bachelor of public health students share a common core course on epidemiology. Medical students and ayurved students do a part of their dissection together under the supervision of the anatomy faculty. Workshops participated in by students and teachers from multiple disciplines, such as medicine, nursing, public health and ayurved, are other examples.

A single Institute of Medicine for training multiple categories of health workers and a single faculty board encompassing nursing, medicine, public health and ayurved, provides a sound structural and functional basis for multi professional education. Awareness of advantages of multi professional education, leading to a larger mutual interest, will hopefully result in greater commitment.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 273

Responsibility of Governments in Reform of Medical Education

Henry J. Walton
World Federation for Medical Education
University of Edinburgh
Edinburgh, United Kingdom

Abstract

A report will be presented which conveys the action taken at the Ministerial Consultation for Europe (five Consultations in the other Regions are to follow). The Consultation brought together the Ministers of Health and Ministers of Education of the European countries. It implemented principle 9 of the World Conference's Edinburgh Declaration to:

"Encourage and facilitate cooperation between Ministries of Health, Ministries of Education, community health services and other relevant bodies..."

The host ministers were the Minister of Health and the Education Minister of the Government of Portugal; the WHO Regional Office for Europe and the World Federation for Medical Education were the main organisers. The Association for Medical Education in Europe and the Association of Medical Deans in Europe were co-sponsors.

An important consequence of the European Ministerial Consultation is the agreed conclusion that for determination of health policy cooperation is essential between Ministries of Health and Ministries of Education. The Lisbon Initiative affirms that in the European countries action must now follow the regional and global deliberations.

The report to be presented will discuss the implications of this conclusion for the countries of Europe, and also for the other five Regions.

The Summary Report of the Consultation is published in "Medical Education, 1989, 23, 205-8".

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 275 - S 280

Innovation in Electives: The University Sains Malaysia Experience

Wan Abdul Manan Wan Muda
Universiti Sains Malaysia
Penang, Malaysia

Abstract

The School of Medical Sciences, Universiti Sains Malaysia, is one of the first schools in South East Asia which developed an integrated and community-oriented programme as the foundation of its medical curriculum for undergraduate studies. The curriculum is based on the SPICES (Student-oriented, Problem-based, Integrated, Community-oriented, Electives, Self-learning) approach to medical education, where electives form one of the required components for each phase of the teaching and learning programme. The concept of electives conducted in Universiti Sains Malaysia is a free choice by students and staff to venture into an area of study which interest them irrespective of discipline. The elective programme also encourages student proposed and staff proposed electives which do not overlap with the main curriculum within the M.D. course. Despite great success and active participation by students and staff, the elective programme is still in the process of upgrading its implementation and coordination to overcome certain shortcomings in the assessment in order to conduct fair assessment among different projects in differing Faculties.

Introduction

The school of Medical Sciences, Universiti Sains Malaysia (USM) is a pioneering Faculty in South East Asia which developed an integrated and community-based medical curriculum. The curriculum is based on the SPICES (Student-oriented, Problem-based, Integrated, Community oriented, Electives, Self-learning) philosophy in medical education. Electives are a major thrust in every phase of the course.

Objectives of the Elective Programme

The specific objectives of the elective programme are: 1) to provide a period for

---

Requests for reprints should be sent to Wan Abdul Manan Wan Muda, Universiti Sains Malaysia, School of Medical Sciences, Penang 11800, Malaysia.

students to pursue courses of special interest to them; 2) to permit the students to carry out an in-depth study in an area of special interest to them; 3) to encourage improvement in knowledge and skills which may not normally be available in the main curriculum; 4) to encourage students to develop an individual approach to understanding problems and to finding solutions to those problems through research; 5) to expose students to observation, recording, reporting and presenting of scientific data within a specified time; 6) to expose students to collaborative scientific investigation; 7) to foster a better student-staff relationship and closer supervision and counselling by academic mentors; 8) to enable students to acquire knowledge and skills from cognate and non-cognate Faculties, and 9) to give students a break within the continuum of the routine undergraduate medical programme.

Types of Electives

Electives are categorised into three types based on the location or source of the proposals.

1) Type I Elective (Supervisor-Proposed)

Upon approval the elective will be offered to students for that particular academic year.

2) Type II Elective (Student-Proposed)

On approval it is included in the programme for that academic year.

3) Type III Elective (Overseas Elective): a) staff proposed: This is proposed by supervisors from the school or by an academic institution outside Malaysia, and b) student proposed: This is proposed by a student or a group of students and is not open to Phase I (Year 1) students.

Criteria for Approval of Electives

In formulating an elective, staff and students must fulfill the following criteria before they can be approved by the Elective Committee: 1) a programme should satisfy the School's Elective Programme objectives and should not overlap with the core-curriculum; 2) the elective proposal must include: title, name/s of proposer/s, name/s of supervisor/s, aims and objectives, schedule and method of achieving the objectives within the time allotted for the elective programme, roles of student/s and supervisor/s, and venue for implementation of electives, and 3) normally not more than two students can be accommodated in one elective topic. A topic should not be duplicated or taken up by another group of students with another supervisor.

Assessment of Electives

Each elective will be assessed by the supervisor/s and one independent assessor. Each student, irrespective of whether s/he works independently or in a group, must write and submit an individual report. Apart from the assessment of their reports, students are also required to attend an interview. The Phase I Elective will contribute 5% to the First Professional Examination.

The Universiti Sains Malaysia Experience

In the early years of the School, the majority of electives in Phase I and Phase II (Years 2 and 3) were conducted in the laboratory or hospitals. However, beginning with the 1988/1989 academic year, students and academic staff were encouraged to adopt a free choice.

Other changes since the 1988/1989 academic year include termination of electives for Year 3 students. In order to allow students to prepare for their professional examinations, the school decided to discontinue mandatory Year 3 electives and to offer optional electives after the examinations. The following section will focus on Phase I and Phase II (Year 2) electives which were affected most by the changes implemented during the 1988/1989 session. Phase III (Year 4) electives continue to be based in hospital, laboratory or the community and were not affected by these changes.

Table I shows the number of electives in Phases I and II since the 1986/1987 academic year.

Table I. Number of electives implemented: 1986 - 1989

	1986/87	**1987/88**	**1988/89**
Phase 1	14	17	32
Phase 2	24	29	42

The introduction of the new elective curriculum in 1988/1989 has generated more elective titles by staff and students. Free choice has broadened the disciplines involved as indicated in Tables II and III.

Table II. Phase 1 electives conducted by categories:1986 - 1989

	1986/87		1987/88		1988/89	
	No.	%	No.	%	No.	%
Laboratory-based	7	50.0	12	70.5	10	31.2
Hospital-based	2	14.3	1	5.9	3	9.4
Community-based	3	21.5	2	11.8	9	28.1
Technical	1	7.1	1	5.9	6	18.7
Arts	1	7.1	1	5.9	1	3.1
Class/Library	-	-	-	-	3	9.5
Total	14	100.0	17	100.0	32	100.0

Table III. Phase 2 electives conducted by categories: 1986 - 1989

	1986/87		1987/88		1988/89	
	No.	%	No.	%	No.	%
Laboratory-based	13	54.2	6	20.8	6	14.3
Hospital-based	4	16.6	10	34.5	4	9.5
Community-based	6	25.0	2	6.9	9	21.4
Technical/Business	1	4.2	5	17.2	11	26.2
Arts/Sports	-	-	2	6.9	11	26.2
Class/Library	-	-	1	3.4	-	-
Others	-	-	3	10.3	1	2.4
Total	24	100.0	29	100.0	42	100.0

In the 1986/1987 session the majority of electives were either laboratory, hospital or community-based. However, in the 1988/1989 session, there was a more even distribution among disciplines. New areas of interest include the technical and business based electives, such as computer literacy and business management. The arts and sports categories include literature, handicraft, music, arts, physical exercise and dancing. These have exposed our students to other forms of academic studies which can widen their interest and perceptions, and hopefully enrich them in their future career as doctors.

Distributions of assessment results are shown in Tables IV and V.
In 1988/1989 the proportion of A grades decreased in both Phases as compared to the 1987/1988 results. The reason for the drop in A grades can be related to the introduction of the new approach to elective programming. The 1988/1989 results also are more representative of the students' individual performance as compared with the results of 1987/1988. This is because in 1988/1989 each student was required to submit an individual report of his/her work. In 1987/1988 students submitted group reports, where one elective could include up to six students who submitted only one report.

Table IV. Results of elective assessments: phase 1, 1987 - 1989

	1987/1988 (%)	1988/1989 (%)
A (80)	34.7	25.7
B (70-79)	48.4	37.8
C (60-69)	14.8	28.4
D (50-59)	2.1	8.1

Conclusion

The introduction of free choice for staff and students in developing elective projects has generated more titles and participation by both parties. Implementation and coordination of assessment continue under review to ensure fair assessment for the different projects in differing disciplines.

Table V. Results of elective assessments: phase 2, 1987 - 1989

	1987/1988 (Year 2 & 3) (%)	**1988/1989 (Year 2) (%)**
A (80)	29.9	14.3
B (70-79)	36.2	58.2
C (60-69)	32.3	19.8
D (50-59)	1.6	7.7

Acknowledgements

The author thanks the members of the 1986-1989 Electives Committee for ensuring the smooth running of elective programmes during those years.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 281

Educational Programme for Primary Health Care Physicians

Janusz Wasyluk and Sbigniew Wegrzyn
The Medical Center of Postgraduate Education
Warszawa, Poland

Abstract

Purpose of the study: a project aimed at re-*orientation of educational objectives from "all graduates prepared for academic career" towards a concept "all graduates prepared to work as primary health care doctors" was developed by a team of educators and clinicians.*

Methods to change the present situation:

1) A set of specific objectives covering all areas of primary health care doctor's competencies has been prepared, approved by the Ministry of Health and then adopted as a - "core curriculum" - by medical schools.

2) Primary health care departments were set up in some medical schools, as well as regional centers for training of health personnel, as a link between academic education and required performance in primary health care: centers and community hospitals.

3) A three year training programme for all primary health care doctors has been developed, based mainly on self-education and self-assessment, with formal evaluation by the end of the training.

Participation in this programme is obligatory.

Results: Long-term evaluation would reveal effectiveness of the programme. Presently we focus our attention on several positive characteristics of this community-oriented project:

- *increased motivation to learn;*
- *opportunity to renew one's body of knowledge;*
- *organisational provisions/clinical rounds, consultations, free days for seminars, etc.;*
- *self-assessment and self-evaluation opportunities;*
- *feedback for health authorities, supervisors in charge and medical schools.*

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 283

Developing Cases for Community-Based, Problem-Oriented Learners

Robert E. Waterman and Stewart P. Mennin
University of New Mexico
Albuquerque, U.S.A.

Abstract

Development and production of case materials for use by students enrolled in a community-based, problem-oriented curriculum is an important consideration for the designers of innovative programmes. Planners of the Primary Care Curriculum at the University of New Mexico School of Medicine have created a guide to case development which has proven invaluable during the past several years. The guide is generic enough to relate to a wide variety of programmes and philosophies. The nine key points of this approach will be presented. They are:

1. How will the use of this case help to accomplish the goals of the course or curriculum?
2. What is the time frame in which each case will fit?
3. What niche will this case fill? How does it fit in with everything else that goes on during the course of in the curriculum?
4. How many basic topics or concepts should each case emphasize?
5. What format will allow for the most flexibility in terms of the desired outcome?
6. What resource materials and exhibits will be needed?
7. Expert Consultation ("if I don't know any of this material, how can I participate in the development of ases?")
8. Should prompting questions or references be a formal part of the case?
9. How will the success of the case design be evaluated?

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 285 - S 286

Experience with a Three Year's Problem-Oriented Basic Medical Sciences Curriculum

Zhang You-zhang, Li Xue-min and Wang Yi-fei
Shanghai Second Medical University
Shanghai, People's Republic of China

Abstract

In 1986 we started the educational innovative parallel track "Problem-Oriented Basic Medical Sciences Curriculum" (PBC) enrolling new students. Until 1989, the PBC track 1986 had finished eight courses of basic medical sciences: anatomy, histo-embryology, biochemistry, physiology, microbiology, pathology, pharmacology and parasitology. The PBC track 1987 had finished six courses and the PBC track 1988 had finished two courses. Through the three year's practice, most members of the PBC group strengthened belief that the university education reform should be carried out, but the reform is not an easy task.

Resistance comes mainly from traditional force within people. Teachers are familiar with lecturing and students are familiar with listening. The teacher-classroom-textbook-centered means is still the main method of medical teaching, divorcement of theory with clinical and practice, students will not pay any attention to those not required in exam and after exam the most basic medical theory is forgotten. This needs so much effort to change and overcome it. After three years' practice, we fell PBC is a good approach to solve the problem.

Our PBC curriculum is a modified problem-based programme. Modification is directed to two aspects: courses are limited to basic medical sciences and teaching is organised still within discipline. Its characteristics are:

1. Disciplines still exist, but carry out the problem-oriented teaching within discipline; 2. Early contact with clinic, integrating basic science knowledge with clinical phenomena; 3. Mainly self-study under teacher's guidance. Discussing surrounding clinical problems. Extensively reducing teacher's lecturing.; 4. Ability of both self-study and integration of basic science with clinical problems are assessed.

PBC track is compared with traditional track in terms of exam with the same questions. Scores in more courses, the PBC class is little higher than traditional class, but the integration ability and self-study ability after exam show the PBC class is stronger than the traditional class.

We learned a lot of experience from the Network. To us, attend the international conference is also a good approach to overcome traditional resistance. We believe that, after several years' practice, we can find out some fresh experience, so that the ultimate aim of raising the teaching quality could be reached.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 287 - S 292

An Innovative Epidemiology Undergraduate Degree - Potential for Linking Academic and Service Issues

London Medical Schools' Epidemiology BSc Group
London, United Kingdom

Abstract

This paper describes a new course in epidemiology which might raise the profile of epidemiology and public health and might be a creative and useful contribution to undergraduate medical education. It brings together five London Medical Schools and will encourage epidemiologists to look at public health and policy implications of their work. The course is new, many of those involved with it are inexperienced, and it will be necessary to monitor and evaluate it carefully in order to maximise its value in the future. It is nevertheless expected that students on this course will acquire skills which will stimulate their colleagues and teachers regardless of whether they ultimately choose public health or other branches of medicine.

Introduction

This paper describes a new degree course a Bachelor of Science degree in Epidemiology at the University of London. It has involved five Medical Schools to date and will involve more in the future. This degree course was developed against a background of increasing recognition of the educational deficiencies inherent in traditional medical school curricula which include a bias towards specialist practice, a lack of community-based experiences, and the neglect of health promotion, disease prevention, and continuity of care. There is also little identification of the major health priorities in the communities in which such medical schools operate. The Network of Community-Orientated Educational Institutes for Health Sciences and the World Health Organisation have played an important part in promoting alternative approaches (Neufeld, 1989). These have included using a variety of problem and community-based teaching methods, developing a broadly based curriculum and ensuring the continuity of learning. The development of innovative tracks at

---

Requests for reprints should be sent to Anthony Zwi, University College and Middlesex School of Medicine, Department of Community Medicine, 66-72 Gowerstreet, London WC1E 6EA, United Kingdom.

established institutions has been one way of stimulating change in a non-threatening way (Kantrowitz et al., 1987).
An additional pressure and incentive for change has been the World Health Organisation's Health for All strategy. In the European Region this strategy has promoted four main areas of activity, i.e. a focus on lifestyles and health; identifying risk factors affecting health, reorienting health care systems; developing the political, managerial, research and other support measures necessary to bring about the desired changes. Target 36 of the World Health Organisation European Targets for Health for All by the Year 2000 has specifically identified the planning, education and use of health personnel for Health for All (WHO, 1989 a). Attention has also been drawn to the need to modify public health training in Europe (WHO, 1989 b). It is against this background that this course should be seen.

Intercalated BSc Degrees

At the University of London medical students have the option of studying for an intercalated BSc; an additional year is inserted into the medical training programme. This enables students to develop specialised knowledge and approaches to solving problems in one particular discipline. It is open to medical students after two years of their pre-clinical course or after their first clinical year. Students obtain a Bachelor of Science degree with a focus in one particular area. In the past, the disciplines most often taken during an Intercalated BSc have been basic sciences such as anatomy, physiology and pathology. In the last few years additional courses have been developed such as medical sociology and history of medicine. The most recent addition is the subject of this paper -an Intercalated BSc in epidemiology and statistics.

A minority of students tend to take Intercalated BSc degrees. These courses are open primarily to the better students. Students participating in the scheme are often highly motivated, because it is difficult to obtain financial support for this extra year of study. For the first year of the new course (1989) it was hoped that 6-10 students would take the BSc. Eight students from five medical schools were accepted for the course.

Structure of the Course

This BSc course has four units: a project, a unit on principles and methods of epidemiology, a unit entitled "epidemiology in practice", and another on "principles and practice of data analysis". Each unit has a set of objectives. Students are expected to complete all course units satisfactorily in order to obtain the BSc degree.

Principles and Methods in Epidemiology. The aim of this unit is to familiarise students with the major principles and methods of epidemiology.
Ten primary objectives have been set for this course unit. On completion of the course, students will be able to select an appropriate study design for answering a given research question, list the features of screening tools and indicate how results of research may be used to influence clinical and community practice. Concepts are applied both within a clinical context and by drawing attention to the public health implications of a given approach. The unit is divided into a range of small modules each consisting of 4 - 6 seminars on such topics as ethics, chronic disease, screening, infectious disease, clinical epidemiology, occupational health, clinical trials and issues affecting developing countries. Virtually all teaching takes place in small group tutorials and seminars. For the first term , however, students will attend lectures with Master of Science students in epidemiology at the London School of Hygiene and Tropical Medicine. Each lecture is followed by a practical seminar to consolidate concepts and work through issues in a practical way. Attendance at this lecture course was introduced as it covered the same issues which we wish to cover and because we were not able to develop an entire set of new materials at the beginning of the course. We will assess whether this is desirable for subsequent years of the course.

Principles and Practice of Data Analysis. The aim of this unit is to develop an understanding of the appropriate use of health statistics in the analysis of health related data. We are not trying to provide or train mini-statisticians, but rather to develop a skilled approach to analysing data appropriately and able to interpret data and statistical analysis. In particular, our objectives are to enable students to demonstrate a firm grasp of the logic of probability statements, sampling theory and confidence limits; to analyse a data set using a statistical package; to communicate the results of an analysis presented in statistical language for a non-statistical audience; and to provide a balanced review of the statistical content of papers published in medical journals.

All the statistics teaching takes place in small groups, much of this in a computer laboratory with personal computers. Particular software packages are used, including CLINSTAT which has been developed by one of the course teachers, as well as the SAS package. It is hoped that by the end of the course students will be able to run a number of commercially available statistical and word processing packages. *Epidemiology in Practice*. The third unit aims to familiarise students with practical applications in epidemiology. This is taught through "paper critique exercises", debates of controversies and small seminars led by an invited guest with special expertise. The "paper critique exercises" involve a critical examination of published literature. Students are presented with a published paper to read in advance of the session. Discussion focuses on the methodological and study design limitations, as well as identifying ways in which unsolved questions can be addressed in future.

The controversies involve debate around important public health issues. All students are given a set of papers on a controversial public health issue. They are also encouraged to use libraries to obtain more information. Some students present the arguments for a particular view, while others will present alternative views on the topic. Students present the information to each other and will debate, in the presence of an expert in the field, how best to resolve this issue and what the inherent limitations are.

The guest seminars focus on an issue of topical public health concern. This is seen as an opportunity to draw service providers into contact with students and to involve students in looking at the policy implications arising from epidemiological studies.

This section of the course focuses on topical health and health service issues. For example, students are presented with information about the derivation of official data and the extent to which official statistics can be believed. This centres on a television documentary alleging the manipulation of statistics. This also focuses on new technology, changes in the National Health Service, and the appropriate role of primary care in urban settings. A focus on major topics of public health concern is embodied by the course, and AIDS, accidents, the role of cholesterol level screening and the value of controlling the use of alcohol are also discussed. A series of specific skills in epidemiology are developed including the preparation of a study protocol, filing and storing information, conducting a literature search, and accessing data at district level.

Project. The fourth course unit is a project, and the topic is selected by the students themselves to put into practice the theoretical principles and methods derived from the rest of the course. On completion, students will have considered a selected topic in relation to the literature by either carrying out a detailed critical review of the literature, conducting a small study or preparing a detailed funding grant application. Students will also have demonstrated the ability to interpret data and to describe this clearly.

The project is a major component of the course. It will present an opportunity to bring the students together with service providers in the community and health services in order to resolve common problems. We hope that this will be an exercise that will benefit both sides as students come with enthusiasm, new approaches and time, while the service providers have the problem, the information and the experience. The students have approximately 8 weeks, almost full time, in which to do their projects. Discussion on possible projects start in Term 1, although the bulk of time available is within the third Term, after completion of the examinations at the end of the second Term. Each student is required to present the project to his/her colleagues for information and feedback. Students are also involved in structuring the third Term. They offer papers for the paper critique sessions and help prepare controversial topics for the "controversy" sessions. These relate to the topics they are researching for their projects.

Where to Now?

The course has begun for the first time this academic year. It will require careful evaluation. Students will need to be actively involved in planning and evaluating the course and providing feedback continuously. We will need to encourage the involvement of the other London Medical Schools and we will also need to develop a more complete range of teaching materials. We may well develop additional modules in areas such as primary health care and the evaluation of primary care initiatives, and the role of epidemiology in public health policy. We will need to devote more attention to establishing materials which tackle issues in a problem-based way. We are also keen to establish collaborative projects with EEC courses and with developing countries. The objective could be to develop materials collectively, have students do comparative projects, and bringing students and Faculty Staff together to explore these issues.

The difficulties include the fact that teaching is undervalued, and many academic departments see research as more important than teaching. There has been limited involvement of department members due to other teaching and research commitments. Nevertheless, there has been full support and involvement in the decision to set up this course. On a day to day basis, however, most departmental staff are not involved. Until recently, there had been no additional funding availabe to the course, although we have received one extremely helpful grant from the North East Thames Regional Health Authority. Another problem has been the need to build on existing course materials rather than start anew. Thus some of the materials may prove to be less than ideal and will need to be changed during the next year. Finally there is the problem of coordinating and involving five medical schools.

Acknowledgements

The following constitute the membership of the London Medical Schools' Epidemiology BSc Group: Anthony Zwi, Department of Community Medicine, University College and Middlesex School of Medicine, North East Thames Regional Health Authority; Michael Marmot, Department of Community Medicine, University College and Middlesex School of Medicine; Derek Cook, Jonathan Elford and Gerry Shaper, Royal Free Hospital Medical School; Stephen Evans and Eva Alberman, London Hospital Medical School; Martin Bland, St. George's Medical School; Francis Gerrard and Nick Wald, St. Bartholomew's Medical School; David Stracham, Department of Epidemiology, London School of Hygiene and Tropical Medicine; Aileen Clarke and Allyson Pollock, Newham District Health Authority.

References

Kantrowitz, M., Kaufman, A., & Mennin S. et al. (1987). Innovative tracks at established institutions for the education of health personnel. *WHO Offset Publication, No. 101*. Geneva, Switzerland: World Health Organisation.

Neufeld, V. (1989). Community-based medical education: some recent initiatives towards making medical education more responsive to rational health priorities. *Annals of Community-Oriented Education, 2,* 65-84. Maastricht, The Netherlands: Network of Community-Oriented Educational Institutions for Health Sciences.

World Health Organisation. (1989 a). Summary report: Ministerial consultation for medical education in Europe. *EUR/ICP/HMD 115,* 5. Geneva, Switzerland: World Health Organisation.

World Health Organisation. (1989 b). Summary report: Consultation on HFA-based public health training. *EUR/ICP/HMD 139,* 5. Geneva, Switzerland: World Health Organisation.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 293 - S 294

Curriculum Evaluation and Student Assessment

Implementation of a Student-Centred and Community-Oriented Curriculum in Sherbrooke: Experience of the First Two Years

Bertrand Dumais and Jacques E. Des Marchais
University of Sherbrooke
Sherbrooke, Quebec, Canada

Abstract

In Pattaya, September 1987, the Faculty of Medicine, University of Sherbrooke, described a new undergraduate curriculum which had just been implemented for its first year medical students, numbering 100. The curriculum was intended to be community-oriented and student-centered utilising the problem-based learning methodology. In September 1989, a third cohort will start the new programme. Many impacts and lessons have been learned during the first two years.

In the academic year 1988-1989, our medical school was subjected to a formative programme evaluation and a summative accreditation from a North American survey team. Also, we offered four times a "Visitors' week". Moreover, a series of programme evaluation activities were undertaken through and at the end of each academic year.

All these inputs bring data which might be used to assess agreement between the initial project and its actual realisation. Already five groups of impacts are identified:

First, there is a delicate problem of "coveritis", identified by external assessors. Teachers, students and educational system suffer from this new disease of curriculopathy. It is discussed how this issue has been dealt with.

Second, the teacher role, as problem-based learning tutor, has evolved from a very passive to an active one, specifically targeted to few steps of the problem-based methodology. Costs in terms of personnel involvement for developing problem-based learning units and student evaluation instruments have been underestimated. Personnel is stretched to the limit.

Third, evaluation of student learning became a new hassle, in terms of teachers capable of designing questions which evaluate higher taxonomic levels, namely

reasoning on problems. Also, evaluation of student participation in tutorial is still contested by students and some faculty.

Fourth, students have to adapt to a new system. Positive and negative impacts on their learning, and their personal life will be reported.

Fifth, community orientation and introduction of humanism were two main goals of the revision. Description of activities assess to what extent these goals have been reached.

Each of these five issues is discussed in terms of how the educational system and the institution have been able to complete the implementation of a full change from a traditional to an innovative curriculum.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 295

Testing a Short Term Training Programme for Yamani Students at Suez Canal University Skills Laboratory

Yaser Elwazir, Somaya Hosny, Esmat Ezzat and Salma Elghandour
Suez Canal University
Ismailia, Egypt

Abstract

A short term training programme was done for twenty-one medical students from Sana'a University in three clinical skills: abdominal, chest and heart examination. A training session was conducted for every skill guided by a trained tutor and using checklists which were developed at Suez Canal skills laboratory.

The students were evaluated before and after the training using the same checklists of the training.

A post-training questionnaire was distributed to the students; to explore their opinions about the training conducted for each skill.

Analysis of the data showed a significant improvement of their performance after the training programme. This was in accordance with the results of the questionnaire..

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 297

Preceptor Evaluation: An Aid in the Development of Primary Care Clerkships for Undergraduate Medical Students

Helga van den Elzen and Peter Bouhuijs
University of Limburg
Maastricht, The Netherlands

Marty Kantrowitz, Stewart Mennin and Agnes Rezler
University of New Mexico
Albuquerque, U.S.A.

Abstract

An increasing number of medical schools show a growing interest in the development of primary care clerkships for their undergraduate students. This is the result of the need for medical schools to prepare graduate students for their possible future roles as primary care physicians, changing health policies favouring primary care, and the increased tertiary role of university hospitals.

The implementation of a primary care clerkship is not always easy. It can be difficult to initiate a clerkship in the medical programme, and also primary care physicians are not always eligible to establish a relationship with a medical school.

The University of New Mexico, Albuquerque, U.S.A., has put an emphasis on rural community health in its primary care curriculum and has developed a primary care clerkship for its first year students. Since the inception of the primary care curriculum programme in 1979, the university has established relations with primary care physicians throughout New Mexico. The purpose of the study we present is to gain additional knowledge on the motivation of the preceptors and to find out whether there is consistency between programme developers and the preceptors about the goals and objectives of the primary care clerkship, the tasks and responsibilities of the students and the preparation of the preceptors for their task as an educator. For this a questionnaire was developed.

We shall present an analysis of this questionnaire to indicate suggestions and recommendations for the development and improvement of primary care clerkships. It is hoped that the results can contribute to the initiation of primary care clerkships at medical schools both in western and developing countries.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 299

Assessment of Students' Perception of their Benefits from Learning by both Problem-Based Learning and Community-Based Education at the Faculty of Medicine, Suez Canal University, in Achieving the Optimal Physician Performance

Abeer Galal-El-Din, Huda El-Sayed and Hanan Mouhamed
Suez Canal University
Ismailia, Egypt

Abstract

In November 1977, the foundation of the Faculty of Medicine, Suez Canal University was initiated and during the four years of planning (1977-1981) an innovative curriculum was developed characterised by integrating biomedical, clinical, behavioral and community health services within the format of problem-based, student-centered learning. In this curriculum, the bulk of the educational activities takes place in community setting (community-based, community-oriented education).
The main question in this study concerns the assessment of students' perception of their benefits from learning by both problem-based learning and community-based education, in achieving the optimal performance as a physician.
The study was carried out on the whole group of students in phase III (year 4, 5 and 6) and the newly graduated class (86-87), by using a closed-type questionnaire.
The results of this study confirm that learning by both problem-based learning and community-based education has yielded the expected benefits from the students' point of view, in the different years and also in the newly graduated class.
Also, this study has shown that problem-based learning and community-based education complement each other in an integrated way and this integration results in achieving the optimal physician performance.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 301

Evaluation of Training on Community-Oriented Primary Care for Family Medicine Residents, in Jerusalem

J. Gofin and R. Gofin
The Hebrew University-Hadassah School of Public Health and Community Medicine,
Jerusalem, Israel

Abstract

One of the roles of the health sciences faculties in strengthening the cooperation between academic centers and health care systems is to focus the content of the training of physicians on the type of work they will perform in the services. In recent years, the health care system at the primary care level in Israel has been requiring family medicine specialists to work in community clinics spread all over the country. From 1983 to 1987, three groups of 16 physicians of the Family Medicine Residency Programme in Jerusalem participated in a workshop based on the active learning of Community-Oriented Primary Care principles as implemented in the practice area of the Hadassah Community Health Center in Kiryat Yovel in Jerusalem. A structured questionnaire was sent to each physician, one to three years after they had completed the workshop, to measure usefulness of learning experience for their practical work in primary care. With a response rate of 80%, three quarters reported that the content of the workshop was useful for their daily work. Half of the respondents reported application of the Community-Oriented Primary Care principles to their current work, mainly in the integration of curative and preventive aspects of care. Of those currently working in primary care (28), twenty reported involvement in the identification and definition of community health needs, as well as in the planning of health programmes. Physicians who were already involved in planning programmes reported that the workshop improved their capability mainly with regard to definition of objectives and target population and to a lesser degree with regard to carrying out surveillance and evaluation. Results described in this report suggest that the experience of this active workshop on Community-Oriented Primary Care has an impact on the community health aspects of a Family Medicine Residency Programme, and therefore on the extent and quality of services at community level.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 303 - S 310

Students' Perception of Field Projects

Fatma Hassan, Amr Hassan and Esmat Ezzat
Suez Canal University
Ismailia, Egypt

Abstract

This paper presents part of an evaluation of field projects (FPs) at the Faculty of Medicine. The aim of the study was to record students' opinions about planning and implementation of FPs, strategies for the assessment of their performance and the impact of FPs on their attitudes and skills. A questionnaire was developed which included closed and open questions. The questionnaire was distributed to all students, and the response rate was 48% (62.5% Phase I, 56% Phase II and 38% Phase III).

Phase I and Phase II students were satisfied with the planning, implementation and assessment of FPs, but Phase III students were less so. In general however, students found that FPs had improved their research skills and ability to deal with communities. Students most liked the team work and the opportunities to provide services for the communities.

Introduction

The project method has been used in education since 1918 (Schubert, 1986). Field projects constitute a major component of the curriculum of the Faculty of Medicine. The FPs enable students to study in-depth one of the community health problems, to develop their research skills and to improve their educational abilities. A similar FP for medical students at Gezira, Sudan has been described by Hamad (1982).

Extensive time and effort have been invested in these projects by the students. However, it was felt that these efforts did not match the benefits, so that the programme should be reconsidered to enhance the efficiency of community-based education. This paper presents the evaluation of the students' opinion about planning, implementation and assessment. The impact of FPs on the students, and their criticism and suggestions are discussed.

Requests for reprints should be sent to Fatma Hassan, Suez Canal University, Faculty of Medicine, Ismailia, Egypt.

Method

A questionnaire was developed to collect data about students' opinion of planning, implementation and assessment as well as the impact of field projects on the students. A five point scoring system was used, in which 5 represented strong agreement; 4 = agreement; 3 = no strong feeling either way; 2 = disagreement, and 1 = strong disagreement.

The questionnaire also included open questions about aspects students liked or disliked in FPs and their suggestions. Students were also asked to express their views on whether FPs should be part of the general plan for research, and whether sharing in FPs should be optional for students. The questionnaire was distributed to all students in the three phases of the curriculum (N = 387). Descriptive statistics were used in the analysis of the results.

Results

30 of 48 students in Phase I answered the questionnaire (62.5% response rate), 84 of 151 students in Phase II responded (56% response rate) and 72 of 188 students in Phase III answered the questionnaire (38% response rate).

Table I shows that Phase I and II students agreed that the objectives of FPs were clear, time for planning was sufficient, the Faculty FP coordinator was helpful, and in general the planning of FPs was good. Phase II students were rather less positive about these aspects. While Phase II students agreed that there was progress in FPs planning across the years, Phase III students were equivocal.

Student in Phase I suggested that the topic of a FP should not be repeated with the same objectives. Students in Phases II and III responded that the topic of a FP should match the interests of students and be selected by them and not the Faculty. They also recommended integration of the field projects in different phases, and they suggested that FPs should complement what they had studied in previous years. Students in different phases suggested that FPs should begin and end in the same year. They recommended that the first half of the year should be used for planning and the second half for the conduct and reporting of the projects.

Table II lists responses related to the implementation of field projects.

Phase I and II students agreed that they accepted the reasons for FPs and their importance to the community. They agreed that the Faculty coordinator was encouraging and helpful in overcoming obstacles. Phase III students were equivocal about these aspects.

Table I. Students' views of field projects - planning

Items	Students' Views					
	Phase I		Phase II		Phase III	
	N=48	X ± SD	N= 151	X ± SD	N = 188	X ± SD
Clarity of objectives	30	4.33±0.66	84	4.00±0.81	72	3.55±0.98
Adequate time for planning field projects	30	4.66±0.48	84	4.12±0.88	72	3.58±1.12
Sufficient help from Faculty FP coordinator	30	4.27±0.74	83	3.82±1.00	72	3.07±1.12
The level of planning, in general, was good	30	4.13±0.57	84	4.07±0.92	72	3.21±0.99
Progression in planning across years			81	4.17±0.68	71	3.31±1.14

Students in different phases agreed that the presence of student coordinators was beneficial and his/her role was effective and necessary. All students agreed on the benefit of working in small groups. While Phase I and II students responded that they were generally familiar with all aspects of FP, Phase III students were less positive. Phase II and III students could not agree that financial support was readily available. Both Phase II and Phase III students were equivocal about problems related to availability of resources. They were similarly equivocal about benefits derived from subject experts. While Phase II students were equivocal about guidance from teachers, Phase III students responded negatively, students felt that they had not experienced any problems in arranging their study schedules for FPs.

Table II. Students' views of field projects-implementation

Items	Students' Views					
	Phase I		Phase II		Phase III	
	N=48	X ± SD	N=151	X ± SD	N = 188	X ± SD
Acceptance of reasons for field projects	30	4.3±0.79	84	3.7±1.12	72	3.17±1.32
Awareness of the importance to the community	30	4.2±0.99	84	3.78±1.15	72	3.54±1.19
Faculty coordinator as an encouraging factor for work in FPs	30	4.07±1.08	84	3.74±1.17	72	3.14±1.09
Faculty coordinator helping in overcoming obstacles	30	4.23±0.86	79	3.87±0.79	70	3.03±1.1
Benefit of student coordinator	30	4.27±0.98	80	4.35±0.71	70	4.11±0.91
Whether the role of student coordinator was effective and necessary	30	4.3±0.98	80	4.09±0.99	70	4.06±0.86
Whether students were familiar with all aspects of FP from the beginning	30	3.7±1.05	80	3.61±1.09	70	3.38±1.05
Benefit of small groups	30	4.47±0.51	79	4.18±0.87	70	3.94±0.87

Ease of access to finance supply	-	-	83	2.9±0.98	72	2.3±1.08
Whether there were problems related to resources (laboratory, literature, typewriting, etc.)	-	-	78	3.43±1.12	72	3.15±1.16
Benefit of subject experts	-	-	83	3.04±1.12	72	2.72±1.15
Whether there were problems for students in arranging their working schedules with	-	-	78	2.63±1.29	67	2.31±1.23
Whether there was a guide from faculty to students	-	-	78	3.41±1.06	70	2.58±1.12

Assessment of FPs was conducted through a student committee. This committee included two student representatives of each working committee. For example, the two students from the literature group would evaluate work of the data collection group. The students were assessed on sharing and individual work in different tasks. The total mark for FP would be 1000; 250 for the preparatory stage, 150 for working in committees, 350 for the actual work and 250 for statistics. At the end an open discussion of FPs results would be held.

This form of assessment was considered beneficial and suitable by 70% (20 respondents) of Phase I students, but only by 29% (73 respondents) of Phase II students, and 21% (61 respondents) of Phase III students.

Table III shows that students in Phases I and II agreed that there was ongoing evaluation and that Phase III students doubted that.

Students in the three phases agreed that ongoing evaluation in FP was important. Some students in different phases suggested that evaluation should be limited to self- and peer evaluation, and some Phase II students recommended checklists for that type of evaluation. Students in Phase I and III suggested a supervising committee should include students as assessors.

Table III. Students' views of field projects - continuous assessment

Items	Students' Views					
	Phase I		Phase II		Phase III	
	N	X ± SD	N	X ± SD	N	X ± SD
Whether there was continuous assessment of students	30	4.07±0.74	80	3.78±1.01	69	3.22±1.07
Whether such continuous assessment was important and necessary	30	4.63±0.49	80	4.35±0.73	70	4.11±0.88

The impact of FP on students is shown in Table IV. Phase II students agreed that FPs improved their ability in dealing with patients and developed their competence in research. Phase III students were equivocal on this aspect. Students in both Phases II and III doubted that FPs improved their educational capabilities. Students in all three phases liked dealing with the community, team work, and serving the community as well as individuals.

Students in the three Phases disliked the number of meetings that were held in cooperation with members of the community, and exposure to embarrassing situations. Phase II students disliked intervention by Faculty members. Phase II students also disliked the compulsion of having to work in FPs.

93% (14 respondents) of Phase I students, 69% (39 respondents) of Phase II students and 82% (39 respondents) of Phase III students agreed that the FPs should be part of the general plan for research in the School. The reasons for their agreement were: FPs would be necessary to complete the educational process, to serve the community, to help cooperation between Faculty and students, to draw a health map of the Suez Canal area, and that this would be consistent with the School's philosophy.

Table IV. Students views' of field projects - impact on improving competences

Items	Students' Views			
	Phase II		Phase III	
	N	X ± SD	N	X ± SD
Educational impact on students	82	3.46±1.18	72	3.33±1.14
Whether field projects developed students' skills in dealing with patients	78	4.02±1.06	72	3.5±1.03
Whether field projects developed students' skills in research	83	3.87±1.07	72	3.85±1

33% (18 respondents) of Phase I students, 32% (47 respondents) of Phase II studentsand 60% (48 respondents) of Phase III students agreed that participation in FPs should be optional. The reasons were that this would help in motivation to work, increase feeling of responsibility, preparation of work would be easier, respect of intellectual differences between students, and that it would minimise attempts by students to avoid work and be unpunctual.

However, the majority of students in Phases I and II felt that if participation in FPs were to be optional, it would give a chance to students not to participate, not to serve the community and not to recognise the importance of FPs. This could also put more strain on some students.

Discussion

The response rate of students, especially in Phase III was low, as they were busy with end of year assessment. However, through personal communication, students were keen to share in FPs evaluation, in spite of their doubts whether this study would improve FPs.

The study revealed that FPs were of interest to students but that they preferred less intervention from Faculty members. This was consistent with the findings by Schubert (1986) that objections to project work were due to topics being imposed by teachers. Intervention by the Faculty to impose the FP topic was explained by a Faculty coordinator as due to lack of complete awareness of the school's philosophy.

Lack of guidance from Faculty subject experts could be overcome with help from the Clinical Epidemiology Unit which is prepared to provide consultation and systematic supervision.

The problem in assessment, as revealed by Phase II and III students, would not be easy to solve and will need in-depth inquiry.
The impact of FPs on students' skills in research, team work and service to the community was consistent with the experience of Hamad (1982) even though our FPs' differed from those at Gezira.
The School's philosophy to serve the community was understood by the majority of Phase I and II students. They and Faculty FP Coordinators rejected the notion that FPs might become optional.

The students found that financial support for FPs was not easy. Alternative financial arrangements should be explored. The community's perception of the value of FPs should be tested. In-depth inquiry of some aspects of FP e.g. assessment, should also be considered.

References

Hamad, B. (1982). Interdisciplinary field training research and rural development programme. *Medical Education, 16,* 105-107.

Schubert, W.H. (1986). *Curriculum perspective, paradigm, and possibility.* London, United Kingdom; New York, NY: MacMillan Publishing Co.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 311

A Statistical Model for the Measurement of Growth in Medical Knowledge

Tjaart Imbos, Ronald Does, Michel Janssen, Frans Tan and Maarten Verwijnen
University of Limburg
Maastricht, The Netherlands

Abstract

In a problem-based learning curriculum students are allowed to choose their own learning objectives. As a result, student achievements cannot be assessed in a traditional way by using a uniform achievement test. At the medical school of Maastricht this evaluation problem is solved by using end objective tests, called Progress Tests. Progress Tests purportedly test the end objectives in the cognitive domain, i.e. what a basic physician should know after six year study in the field of medicine. Each test consists of a stratified random sample of 250 test items from the universe of test items which define the whole field of medical knowledge.

These tests are administered four times a year. As a consequence, after six years 24 measurements of each student are available. For this situation with measurements of a group of individual students on 250 test items at 24 occasions a statistical model was developed. In this model two factors are assumed to dominate the process of answering educational test items: the students' true knowledge and the difficulty of the test items. Under reasonable assumptions the knowledge and the difficulty are handled as random variables. The model estimates the knowledge of the students at each occasion on a common scale. Also the variance of the difficulty variable is estimated. A very attractive feature of the model is the possibility to estimate the growth of knowledge for each student.

The main features of the statistical model will be summarised and a short description of the powerful computer programme ABEST will be given. Furthermore empirical results of some studies in which the model and the computer programme were used, will be presented.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 313

Assessment of Attitudes of Faculty Staff at Suez Canal University towards Community Participation

M. Khattab
Suez Canal University
Ismailia, Egypt

Abstract

The medical school at Suez Canal University in Egypt started a partnership programme between the university, local authority and the community aiming at improving the health "quality of life" in El-tall El-kebir district in Ismailia governorate.

Among the initial challenges met in getting this programme off the ground were to build a multidisciplinary research team and to ensure effective community participation.

The aims of this work were to study the satisfaction of the research team, their perception to community satisfaction and their ability to work jointly in such partnership, and also their perceived difficulties and constraints.

This study has shown that 75% of the research team members felt a great deal of satisfaction to work in such partnership; however, causes of satisfaction were different among the research team members. Eighty-five percent also felt the community was satisfied of their perception compared to non research team staff about the ability of the community to identify their health problems, identify causes and risk factors and recommend solutions was statistically significant.

Some difficulties and constraints identified by the research team will be discussed.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 315 - S 322

A Method for the Assessment of Problem-Based, Community-Oriented Medical Education

Mark Knudson and Ann Frye
Wake Forest University
Winston-Salem, United States of America

Abstract

Problem-based learning in an ambulatory setting may present considerable problems, especially with providing reliable assessment of students and the need to avoid the tendency of preceptors to overrate the competence of students. This study examines the instruments for assessment that were used in an eight week problem-based community experience. The results suggest that ratings for some components lack sufficient variance. Furthermore, lack of correlation between similar items indicated that some of the instruments are not sufficiently reliable. The methods described in the paper facilitate the educational interventions and the design of the assessment instruments and thus yield ways to improve the education of medical students.

Introduction

There has been an increase in the use of problem-based learning and in the use of the ambulatory setting for medical education (Barrows and Tamblyn, 1980; Carey and Bennard, 1988). Problem-based learning in an ambulatory setting, especially using private physicians practising in the community, addresses many of the needs of today's medical student and may help to correct some of the problems noted in standard lecture-based and hospital-based medical education (Ende, 1983; Gordon et al., 1977). Unfortunately, the difficulties in problem-based education and in ambulatory education may be compounded when these techniques are combined in a site distant from the medical school. To train practising physicians to use new educational techniques, to provide a standardised and controlled experience, and to provide adequate formative and summative assessment of the student has proved to be very difficult in such a setting.

Requests for reprints should be sent to Mark Knudson, Wake Forest University, Bowman Gray School of Medicine, 300 S. Hawthorne Road, Winston-Salem, NC 27103, United States of America.

The Bowman Gray School of Medicine offers a problem-based curriculum as an alternative to its standard lecture-based curriculum. This "Parallel Curriculum" accepted its first class of 18 students in the autumn of 1987. The problem-based curricular track was implemented with the expectation that it would enhance motivation to learn, increase retention of relevant basic sciences, improve students' ability to assess themselves, and encourage independent learning. The culmination of the first year of the Parallel Curriculum is an eight week Intensive Community Experience (ICE) in the practices of community preceptors. During this period, each student spends half of his time seeing patients under the guidance of a single community physician. The remainder of the student's time is spent studying the basic sciences related to his patients. We anticipated problems in this ambulatory, problem-based experience: difficulty in training preceptors, maintaining a comparable experience for students at sites distant from the medical school, and providing adequate formative and summative assessment during the experience. Although community preceptors may be effective teachers, they may have several handicaps as assessors. Studies have suggested that the preceptor who sees patients may not perform as well as one who only teaches and supervises (Rosser and Crocco, 1979). Other studies have questioned the dependability and accuracy of assessment by preceptors.

As we aim to train self-directed learners, and because appropriate assessment should overcome the above problems, we focused a great deal of attention on assessment during the experience. We recognised two major problems in assessment that could affect an ambulatory, problem-based experience. The first problem is concerned with providing reliable assessment. Studies have suggested assessment of clinical competence frequently has poor inter-rater and intra-rater reliability (Kaufman, 1985). Inadequate reliability may be due to the assessment instruments, if many individual aspects of performance are ignored in favour of an overall global rating. In addition, poorly trained assessors may arrive at varying interpretations of the skill to be assessed or of the scales to be used. They may thus make dissimilar judgements of comparable performance. Unreliable assessment, when strengths and weaknesses are not consistently identified, will seriously affect students' learning.

A second problem in assessment in the ambulatory setting is that private physician preceptors tend to inflate their rating of their student's performance (Muller, 1984). The valuable service that the student provides for the physician, the close working relationship, and the preceptor's lack of training may foster this inflation of rating.

Their ratings tend to cluster toward excellence and do not discriminate between different levels of performance. This is reflected in the lack of variance among ratings.

We wished to provide sufficient feed back to the student and to address these problems of reliability and discrimination in formative and summative assessment. We therefore created a process of assessment that would provide multiple ratings of performance and that would allow us to monitor several aspects of the assessment. Much of the approach used in this study was modeled on a similar programme at the University of New Mexico (Perkoff, 1986). Two assessments by the preceptor (daily, of clinical performance and weekly of independent learning) provided continuous formative feedback to students. The use of other assessors (teachers, patients, and student self-assessment) added depth to the assessment as our study suggested that the use of multiple assessors also created an opportunity for examining the reliability of assessment.
The use of a student logbook to record patient interactions, has been described by Perkoff (1986). These records served to document the experiences of the student in a setting where the curriculum is at the mercy of chance. Other authors have described the benefits of assessment by patients to detect specific student problems and to provide positive formative feedback to the students. Faculty members, who visit the community site twice to assess and support the students, and other Faculty assessors served as additional sources of information to increase the breadth of formative assessment and to further insure the fairness of summative assessment.

Self-assessment has been studied extensively as a critically important skill for physicians who must guide their own eduction after completion of their formal training. Several authors have noted the benefits of self-evaluation and that it can be reliable (Muller, 1984; Perkoff, 1986). Unfortunately, learning how to assess oneself is haphazard in most medical education programmes. Not all students can assess themselves equally well and not all skills can be assessed accurately in this way (Shine, 1986). In order to teach self-assessment, an assessment process needs to be both reliable and discriminating, in order to model the process of assessment appropriately for the student. We chose to look at the correlations between ratings of the same skill by different assessors and the variance of ratings to answer the following questions: 1) is there correlation between different assessors who assess a student on the same items, suggesting reliable assessment of the student on those items, and 2) is the variance of ratings obtained on the assessment instruments great enough to suggest that the assessors are discriminating levels of competence?

Methods

Seventeen students participated in the Intensive Community Experience (ICE) for 8 weeks in the Spring of 1988, and an additional 18 students participated in a revised ICE in the Spring of 1989. Five assessors judged each student's work in the 1988 ICE: 1) preceptors assessed clinical and communication skills on a daily basis. Independent learning was tested by weekly oral assessment of the student; 2) patients seen by the student were surveyed to determine their opinions of clinical and communication skills; 3) faculty staff visited the community clinical site at least twice to assess clinical performance and to review the information that had been learned; 4) the above Faculty Staff and final examiners from the Faculty assessed the generation of hypotheses and learning issues by reviewing the patient logbooks. At the completion of the ICE students participated in an oral assessment to judge the information that had been learned, and 5) all students completed a self-assessment instrument to evaluate their performance in all the areas mentioned above.

All assessment instruments used five-point Likert scales: 1 to 5, when the assessment was formative, and 0 to 4, corresponding to the Bowman Gray grading scale, when summative. All data were analysed using SPSSPC, a statistical software package. Mean variance was computed for each assessment and for each type of assessor. Pearson correlation coefficients were computed between ratings of related items to determine level of agreement between different assessors.

After a review of the 1988 data, changes were made in the instruments for the 1989 ICE in an attempt to standardise the items of assessment for the different assessors. In addition, a weekly formative self-assessment replaced the preceptor's weekly oral assessment. The student reviewed their self-assessment weekly with the preceptor, a process designed to increase skills in self-assessment.

Results

Seventeen students completed the ICE. Each worked with one preceptor. Every student had at least one assessment with every instrument, except for one student whose preceptor did no daily evaluations. When an instrument was used more than once for a single student, the ratings were averaged and a mean score was used for computation of correlation. Thus n=17 for all instruments except for the Preceptor Daily Assessment, where n=16. Variance of scores was computed for each individual instrument, and these scores were summed and averaged.

Analysis of Pearson correlation coefficients for ratings of single items from various evaluators yielded small, statistically non-significant correlations. For example, preceptor and visiting Faculty staff rating of "history completeness" correlated at r =. 37, and student and visiting Faculty staff ratings of "writing patient logs" at r=.36, both not significant at p= . 05. There were no detectable trends in the items correlated or in the types of evaluator whose ratings were correlated. There were also areas of weakly negative correlation. We proposed, therefore, that the small correlations obtained may be due to chance and are not meaningful.

The second analysis was designed to describe the ability of assessors to discriminate levels of performance. This was accomplished by comparing the mean scores and variance of scores from a single assessment instrument. Table I depicts the mean scores for ratings by preceptors, visiting Faculty staff and students' self-assessment. The preceptors consistently scored the students higher than other assessors, with a mean score of 4.5 on a 5 point Likert scale. No significant difference was detected between scores of students' self-assessments and those of visiting Faculty staff. The level of variance in scores differed from one type of assessor to another. Preceptors had the least variance in their ratings, while students had the greatest degree of variance.

The results of the 1989 ICE (Table II) revealed a similar lack of correlation between assessors. The trends noted in the means and variance of the 1988 data persisted in the 1989 data. Preceptors continued to assess students more positively than either Faculty assessors or the students themselves. Interestingly, the addition of a formative self-assessment instrument revealed a trend towards slightly lower mean scores and slightly greater degrees of variance for formative as compared to summative assessments.

Discussion

This study described a simple methodology to look at both the reliability of our assessment instruments and the assessors' ability to discriminate levels of performance in problem-based, ambulatory education. Through the use of correlation coefficients we showed dissimilar ratings by different assessors of a student on the same skills and performance. This lack of consistency suggested that we were not modeling assessment well enough to support our students' acquisition of self-assessment skills. Confusion occurred for the student when assessors gave disparate judgements.

The validity of such inconsistent summative evaluation must also be questioned. The second concern of this study was the ability of assessors to discriminate levels of performance. An increase in discriminating power may assist in the detection of specific weaknesses, as well as to identify and reinforce areas of excellent in performance. We used comparison of variance as a rough measure of discriminating power. We found students and visiting Faculty staff were similar in the average rating, while preceptors tended to score students much higher. Students, however, gave themselves a much wider range of scores on different skills. Their use of a broader range of scores suggested that they may have been better able to identify strengths and weaknesses in their own performance than did other assessors.

Several factors may have contributed to the unsatisfactory nature of the statistical qualities of our assessment process. First, the power of the statistical analysis was low due to the small number of students (17 and 18). Second, assessors may have interpreted the items differently. Third, the assessments of each student were carried out at different times and with different patients, thus introducing uncontrolled variables. Finally, the low variance in ratings reflected a restriction in the range of ratings, with raters using only the higher end of the scales. This would have the effect of limiting the size of the correlation coefficients.

Table I. Average and variance of rating by type of assessor

Type of Assessment	**Mean Score (1-5)**	**Median Variance**
Student Final Self-Assessment	3.96	.448
Faculty Final Assessment	3.66	.284
Visiting Faculty Staff Assessment	3.95	.295
Preceptor Final Assessment	4.49	.198
Preceptor Daily Assessment	4.22	.099
Preceptor Weekly Assessment *	3.48	.131

(* = Scale 0-4)

Table II. Average and variance of rating by type of assessor (1989 Revised ICE)

Type of Assessment	Mean Score (1 —5)	Median Variance
Student Final Self-Assessment	4.05	.409
Student Weekly Self-Assessment **	3.76	.416
Faculty Final Assessment	3.87	.218
Visiting Faculty Staff Assessment **	4.00	.414
Preceptor Final Assessment	4.28	.211
Preceptor Daily Assessment **	4.26	.298

(** = Formative Assessment)

Conclusion

The purpose of this study was to examine the assessment instruments used in an eight week problem-based, community experience. The results suggested that ratings obtained from some components of the assessment lacked sufficient variance. These components, especially the preceptors' evaluations may not have discriminated levels of performance, thus denying students information about their relative strengths and weaknesses. Similarly, the lack of correlation among related items led us to suggest that the instruments were not sufficiently reliable to use as models for self-assessment or for accurate summative assessment. While this process of assessment is intuitively valid and its components are a logical extension of the work of other educators, it is clear that much remains to be done to improve the process.

References

Barrows, H.S., & Tamblyn, R.M. (1980). *Problem-based learning: An approach to medical education*. New York, NY: Springer Publishing.

Carey, T.S., & Bernard, B. (1988). Involvement in three types of preceptors with residents in an ambulatory care clinic. *Journal of Medical Education, 63*, 479-482.

Ende, J. (1983). Feedback in clinical medical education. *Journal of the American Medical Association, 250*, 777-781.

Gordon, M.J., Hadac, R.D., Smith, C.K. (1977). Evaluation of clinical training in the community. *Journal of Medical Education, 52*, 888-895.

Kaufman, A. (Ed.). (1985). *Implementing problem-based medical education*. New York, NY: Springer Publishing.

Muller, S. (1984). Physician for the Twenty-first century: Report of the project panel on the general professional education of the physician and college preparation for medicine. *Journal of Medical Education, 59*, part 2.

Perkoff, G.T. (1986). Teaching clinical medicine in the ambulatory setting: An idea whose time may finally come. *New England Journal of Medicine, 314*, 27-31.

Rosser, W.W., & Crocco, D. (1979). An evaluation system for an undergraduate clerkship in family medicine. *Journal of Family Practice, 9*, 1049-1055.

Shine, K.I. (1986). Innovation in ambulatory care education. *New England Journal of Medicine, 314*, 52-53.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 323

Do we Really Need Tutors in Small Tutorial Groups?

Irma Kokx, Henk Schmidt, Arie van der Arend and Louis Boon
University of Limburg
Maastricht, The Netherlands

Abstract

An essential feature of problem-based learning is the existence of small tutorial groups. Students collaborate in small tutorial groups of about ten students guided by a staff member or "tutor". Staff members of "tutors" are present during the entire meeting. However, some of the aims of problem-based learning are the ability of working efficiently and independently together and to be responsible of one's decisions regarding the formulation of learning objectives. The question then is to what extent the full-time presence of a tutor is necessary, in particular if third year students are involved. In other words: Are students capable of self-directed learning after three year experience in a problem-based curriculum and is the above mentioned aim reached?

In this presentation, research on this question will be reported . As dependent variables were selected: the assessment scores on an end-of-unit test, study behavior and study time, productivity and general functioning of the group. The experimental groups worked essentially without tutor. However, they had the opportunity of asking questions for about 15 minutes each meeting. The control groups were guided by a tutor as usual.

Theoretical and practical implications of the results of this experiment will be discussed.

Annals of Community-Oriented Education
1990, Vol. 3, S 325 - S 326

How does Undergraduate Medical Education correspond to the Practical Needs of Primary Health Care in Finland?

E. Kumpusalo, K. Mattila, I. Virjo, L. Neittaanmäki, V. Kataja, S. Kujala, M. Jääskeläinen, R. Luhtala and M. Isokoski
Kuopio University
Kuopio, Finland

Abstract

In spring 1988, in the Universities of Kuopio and Tampere, in collaboration with the Finnish Medical Association, a s.c. Young Doctor 88 study was made. It concerned all the physicians legitimated during the years 1977-1986 in Finland. After randomization, a postal questionnaire was sent to one half (2631) of the basic population (5208). 1745 questionnaires (66.3%) were returned. There were 59 questions concerning social background, opinions on under- and postgraduate medical education, present and desirable jobs, job satisfaction, professional and scientific plans, hobbies, family situation and values of life. In general, the young doctors from all the Finnish universities were quite satisfied with their clinical education in central university hospitals. However, according to the doctors with some 4 years of practical experience, the basic medical skills needed in the primary health care were inadequately taught in the universities. The following table contains the answers (%) to the question: "How does the undergraduate medical education correspond to the practical work of doctors in health centers?"

	Poorly	*Moderately*	*Well*
Diagnostic skills	*19*	*44*	*38*
Doctor-patient relationship	*33*	*43*	*25*
Health education	*43*	*39*	*19*
The work in health centers in general	*44*	*34*	*22*
Teamwork	*50*	*38*	*12*
Care of elderly	*57*	*33*	*12*
Home health care	*63*	*26*	*12*

	Poorly	Moderately	Well
Rehabilitation	73	22	6
Environmental health care	77	20	4
Administration	84	14	2

Medical doctors from Kuopio and Tampere Universities were quite satisfied with their health centre teaching. However, there was no correlation between the satisfaction and intentions of the doctors to work in health centers.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 327 - S 328

Curriculum Revision at Sherbrooke: Transforming Content into Problems

Charles P. Leduc and Jacques E. Des Marchais
University of Sherbrooke
Sherbrooke, Quebec, Canada

Abstract

In 1987, the Faculty of Medicine, University of Sherbrooke, implemented the first year of a revised pre-doctoral curriculum. The revision proceeded from a traditional lecture-based to a problem-based curriculum. Among the thorniest of questions addressed during the implementation was: "How do we translate previously taught subject matter into problems?"

An analysis of approaches used by the unit committees in resolving this question is ongoing. Two cycles of first-year and one cycle of second-year units are completed in September 1989. The head and one member of each unit committee were met individually after the completion of the unit. Using a structured questionnaire with open-ended questions, the following aspects of the committee's work were defined:

- *selection of the committee;*
- *work distribution;*
- *sequence of tasks;*
- *problem selection;*
- *role of the head;*
- *corrections for version 2 of the unit.*

Results presented will be based on all the units completed through September 1989 as they represent the first completed series of system-oriented learning units. Results will pertain only to the first version of the units.

As part of the process of implementing problem-based learning methodology, a stepped approach to the elaboration of the units was presented to each committee. A characteristic of the implementation at Sherbrooke was the modification of this approach by all unit committees. The delimitation of content procedure was the most evident departure from the proposed protocol. The use of previously taught material was the basis of the actual method used. As it was an evident impossibility to cover all this material with the problem-based method, a selection of fundamental concepts in this material was done. The construction of a problem was done after this refining of the content to be covered. Content coverage was further assured by

the use of content-knowledgeable tutors, transfer of specific concepts to other units and the use of an integration unit in the third year. Implementation can thus proceed on the basis of pre-existing content. However, intensive content definition is needed to realise the transformation into problems.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 329

Experiences in Performance-Based Testing

S.J. van Luijk and C.P.M. van der Vleuten
University of Limburg
Maastricht, The Netherlands

Abstract

Performance-based testing becomes more and more important in medical schools. In general, despite some problems, experiences with that type of testing are positive. Since 1982, the Maastricht Medical School has applied performance-based tests on a large scale to assess the technical and clinical skills of their students in a representative, clinically relevant way. Following each test administration, students and faculty completed questionnaires regarding their opinion or experience on a number of aspects. In this paper the results will be summarised. Attention will be paid to (shifts in) opinions on validity and relevance of test content, training sessions for observers, the perceived role of examiners and simulated patients, learning strategies of students, and attitudes towards observational and written test instruments. These results will be compared with other medical schools.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 331 - S 336

Curriculum Revision: Renovation of an Innovative Approach

Gerard D. Majoor and Hetty A.M. Snellen-Balendong
University of Limburg
Maastricht, The Netherlands

Abstract

About ten years after the rather unprepared start of the Maastricht Medical School, reasons accumulated to review the curriculum. After four years of intensive discussions, involving both staff and students, the decision was taken to renovate the curriculum, especially its first and second year. The process which lead to this decision, some of the starting points for the renewal, the implementation and preliminary results of programme evaluation are discussed.

Introduction

Right from its inception in 1974, the Faculty of Medicine of the University of Limburg applied problem-based learning and small group tutorials as the educational approach in a community-oriented curriculum. Since the school received its first students after a very limited time of preparation, the curriculum had to be developed while it was being implemented. Although, on the basis of programme evaluation, many changes were introduced in individual learning units ("blocks") or curriculum years, the overall structure of the curriculum was not discussed until about 10 years later. As a result of this reviewing, major changes were adopted for the first and second curriculum years, which of course had an impact on the contents of years three and four.

This paper will focus on the school's strategy in this reviewing process, the criteria used to assemble the programme, and its implementation and evaluation.

The Curriculum Prior to Change

Each of the four pre-clinical curriculum years was divided into 6 or 7 six-week periods. The first year introduced the student to the study of medicine by presenting

---

Requests for reprints should be sent to Gerard Majoor, University of Limburg, Faculty of Medicine, POB 616, 6200 MD Maastricht, The Netherlands.

a course in study skills for problem-based learning and 5 blocks covering categories of health problems ranking highest in terms of population morbidity and mortality. In the second year, emphasis was laid on the normal development and function of man. The third and fourth year were thematically coherent and presented 9 blocks on themes identified on the basis of complaints most frequently presented in General Practice. In this pre-clinical curriculum, 4 six-weeks periods were available for electives, including one period for an elective in scientific research.

The Reasons for Change

Several reasons had accumulated before the decision was made in 1987 to revise the medical school curriculum. 1) An analysis of the curriculum contents published by Snellen-Balendong et al. (1984) had revealed some topics (i.e. categories of complaints) which were under-represented, whereas other topics appeared to be over-emphasized. 2) Two blocks in the first and the third year respectively, which focused on psychosomatic and social health issues, were consistently judged insufficient in programme evaluations by the students. 3) The blocks in the second year had to serve two goals: showing the development of man and his normal physiological function. These blocks frequently showed illogical combinations, such as "the gastrointestinal tract" with "the child" and "the kidney" with "adult life". 4) The study load in the last pre-clinical year was too heavy. At a later stage of the discussions further reasons were added. 5) The contents of the blocks were almost exclusively controlled by the block planning groups. Sometimes, this lead to bias of the block contents according to the specific interests of some staff members in the planning group. 6) Coordination of the block contents with the curriculum as a whole was often inadequate, despite the existence of year planning groups comprising all block coordinators of that year. 7) Some departments, established in the Faculty well after its start, had not had the opportunity to integrate their discipline in the curriculum. In addition, many more recently appointed staff had the experience of trying to infiltrate and were denied the thrill of creating a new curriculum. Curriculum renovation would offer them the opportunity to become more involved. Students added some further arguments. 8) In their view, the pre-clinical curriculum as a whole, and the first year in particular, lacked internal consistency. They could not discern a systematic sequence from rather uncomplicated problems in the first year(s) to more complex problems in the last pre-clinical year. In addition, an inquiry organised by the students indicated that 75% of their colleagues felt the need for more a thorough study of the basic sciences, especially in the first year.

Four Years from Initiative to Decision

The process of change was set in motion by an initiative of the Faculty's Education Board in 1984. In the following year, a committee appointed by the Board presented a report ("The Red Thread") in which a proposal for change of the first two curriculum years was made. These years were to focus on human function and disturbance. Furthermore, subsequent blocks in this new curriculum should present problems of increasing complexity, chances to use previous knowledge, and some lectures to assist students in integrating newly acquired knowledge.

All departments and the students were asked to give their opinion on the report. Departments often responded with extensive letters; the students even produced an alternative report called "The Blue Spiral". Considering all reactions together, however, the Education Board concluded that the time for change did not appear to have come yet. Nevertheless, some members of the Education Board did not give up. Granting some of the most fundamental comments of staff and students, a second Red Thread Report was produced by the end of 1986, adding to the points raised in the first version a progression from basic sciences to patient problems and from normal functioning to pathology. Even this second report did not arouse sufficient support to start changing. A third Red Thread Report had to be written, which by the end of 1987 had circulated through the Faculty by the end of 1987. This report contained objectives and outlines of the blocks for the first and second years, thereby creating a point of reference to check for drift of block contents over the years. Furthermore, the departments envisaged to be of primary or secondary importance were specified for the construction of each block.

In 1989, a comparable report describing the blueprints for the blocks of years three and four was accepted. For this report, an analysis was made of several sources. 1) The contents and programme evaluation of the existing curriculum in Years three and four. 2) Figures of morbidity in the Dutch population as collected in a "Continuous Morbidity Registration Project" of the University of Nijmegen, The Netherlands. 3) A listing of the 20 most frequently occurring "Reasons for Encounter (RFE) in General Practice" assembled by our own University. 4) A listing of 20 causes of death with highest incidence in The Netherlands. 5) A survey of the percent contribution of each chapter of the "International Classification of Primary Care" to 90497 RFE's as reported by WHO. The titles of the third and fourth years' blocks presented in Table I reflect the outcome of these studies. In 1990 discussions will concentrate on possible changes in the Years five and six, which are predominantly devoted to clerckships in general practice, psychomedical care and the hospital practice.

Table 1. Survey of the block titles of the renovated curriculum of the Maastricht Medical School

Year 1	**Year 2**
Introduction. Studying at the University of Limburg	Perception, consciousness, and emotion
Metabolism	Loco-motion
Interaction and regulation	(Electives)
Attack and defense	Basics of scientific research*
Balance/imbalance	Growth and differentiation
Caring for health	Born and raised
	Ageing

Year 3	**Year 4**
Shortness of breath and chest pain	Sexuality, fertility and problems related to pregnancy
Disturbancies of the nervous system and special senses	Abdominal complaints
Mental and behavioural problems	Fever, infection and inflammation
Appearance and external manifestations of disease	(Electives)
Pain	Blood loss
(Electives)	Fatigue and weight loss
(Electives)	Emergencies*

* These units are 4 weeks, instead of 6 weeks.

Implementation

For the implementation of the new curriculum it was decided to start with year one and to proceed year by year. Block planning groups and coordinators were newly appointed, and a guiding committee for the implementation of the plans for Years one and two and the preparation of plans for subsequent phases was installed.
Furthermore, the quantification of the contribution of departments needed in the first four years of the curriculum was used in constructing a manpower plan for teaching for each of the School's departments.

Evaluation

Each learning unit was concluded with a formative block-test and an extensive (standard) programme evaluation (Gijselaers, 1985).
Furthermore, the tutors were asked to take notes of the learning objectives defined by the students after discussion of each task in the tutorial group. In addition, they were invited to add their experiences with any task in the group. On the basis of this information adjustments in the blocks will be made wherever appropriate. With the exception of unit 1.6 (Caring for Health) all new blocks in the first curriculum year were well received by the students.

Conclusion

It is encouraging to establish that it proved possible to review a community-oriented, problem-based curriculum and to change its contents without discussion of its educational approach, despite the difficulty of implementing change in an existing, "traditional" school. The time that was needed to reach agreement on the curriculum renovation was long, but it involved both staff and students most actively. Even if no changes had been implemented at all, the time and energy spent would not have been wasted.

References

Gijselaers, W.H., & Schmidt, H.G. (1985). An approach to programme evaluation based on comparative data. In: S. Goodlad (Ed.). Accountable autonomy. Perspectives in professional education. Surrey, United Kingdom: SRHE.

Snellen-Balendong, H.A.M., Pollemans, M.C., & Stalenhoef-Halling, B.F. (1984). Een analyse van het Curriculum jaar I t/m IV 1981/1982 van de Faculteit Geneeskunde (An analysis of the curriculum Years I through IV, 1981/1982, of the Faculty of Medicine). In: E. Boshuizen et al. (Eds.). *Onderzoek van Onderwijs Re-*

search on Education). Vol.19A. Maastricht, The Netherlands: Department of Educational Development and -Research, University of Limburg.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 337 - S 338

Assessing Factors Influencing Student Learning in Implementating and Improving Problem-Based Learning in Sherbrooke

Jacques E. Des Marchais, Robert Black and Sophie Michaud
University of Sherbrooke
Sherbrooke, Quebec, Canada

Henk Schmidt
University of Limburg
Maastricht, The Netherlands

Abstract

In September 1987, the Faculty of Medicine Sherbrooke began a new programme for its first year cohort numbering 100 and favourising problem-based learning in small groups as the major instructional format. Many factors influence problem-based learning: quality of problems, social environment, resources and tutor role. The first two years are divided into fourteen learning units. After each one, students assess the programme by a 46 item rating scale with an answer rate of 97%. Student ratings are generally considered reliable and valid indicators of the quality of instruction. However, student ratings are often insufficiently specific to provide guidelines for course improvement. As no absolute standard exists for sufficient instructional quality, it is almost impossible to decide when and what remedial action is required. Results indicate that the rating scale was a powerful and reliable instrument for analysing and evaluating the implementation of problem-based curriculum. It provides therefore information useful for ongoing curriculum improvement. The analysis points out the most important factors influencing student learning. Student achievement each year is assessed by three written examinations measuring recall and analysis of problems with short essay type questions. There was no significant correlation between tutor's role and student achievement assessed by examinations. Only few factors, quality of problems, prior knowledge, satisfaction and time correlate with multiple choice questions and short essay components of the examinations. Then these findings are discussed in terms of psychometric issues and in terms of the factors influencing the implementation and the improvement of problem-based learning as a new instructional methodology. It was concluded that the measurement characteristics of the present rating scale

appear to be more than that incorporating theoretical notions concerning learning instruction into an instrument designed to provide data for ongoing curriculum reform is feasible. The ten subscales resulting from principle components analysis of responses appear to cover most relevant constructs proposed in the theory of problem-based learning. This rating scale for programme evaluation has objectively and standardisely documented weak parts of the implementation revealing factors influencing student learning.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 339 - S 343

Evaluation of Elective Studies: Teacher versus Student Peer Assessment

Adel M. Mishriky and Esmat Ezzat
Suez Canal University
Ismalia, Egypt

Abstract

Eleven elective studies were undertaken by fourth year students. Each was undertaken by a group of two to seven students. These projects were variable in type and orientation. Five were health system research, three were on aspects of the educational process in the school, two were population-based, and one related to laboratory experiments. At the presentation, each study was evaluated independently by each of the other ten groups of students. At least two Faculty members evaluated each study independently. Staff and students used the same evaluation instrument. The data were analysed with the Spearman Rank Correlation test. The results have shown no correlation between the assessment by students and those of the staff. However, both agreed on the study with the least score. There was a significant positive correlation between the mean of the scores given by each group of students to the other ten groups, and the final score achieved by that group. The implications of these results are discussed.

Introduction

The elective time for students of the Faculty of Medicine, Suez Canal University (FOMSCU) is a six-week period in the fourth year. This time is devoted to research work. Apart from the benefits of electives mentioned by McAuley et al. (1988), this activity provides the students with skills and abilities in research methodology in clinical, laboratory, and community work. Added to this is the opportunity to serve the community and find solutions to some of its problems.

The importance of this activity led to some emphasis on the process of its assessment. In this study we have tested the ability of students to assess each other. The question was whether peer assessment differed from teacher assessment.

Requests for reprints should be sent to Adel M. Mishriky, Faculty of Medicine, Suez Canal University, Ismailia, Egypt.

Method

The material for this work consisted of eleven elective studies undertaken by the fourth year students. An assessment checklist, was designed by a group of five fourth year students with the cooperation of the authors. They discussed with their peers all the items of the checklist and obtained their approval. Items like the extent of benefit gained by the students, how much they served the community and/or the school, punctuality, research methods and presentation, were included. Two sections were appended to the checklist, the assessment of the final document or product, and the assessment of the progress of the group during their work. Obviously, these were not used by the students.

During the presentation by each group, one checklists was filled in by each of the other ten groups of students. In addition, at least one checklist was filled in by a Faculty member responsible for the educational process of the phase and another one by a research methodology or clinical epidemiology expert. All students were invited to share in the assessment so that the checklist of each group represented the opinions of all its members. Checklists were filled in independently and collected for analysis. Spearman Rank Correlation was used to test the association between student and teacher assessment.

Results

The eleven elective projects used in this study covered variable aspects of medical education, medical sciences, and health services (Table I). Health system research had the greatest share, as five of these studies were of this type.

Table I. Areas of research in the eleven elective projects

Area of Research	**Studies**
Health Service Research	5
Medical Education	3
Population-based Research	2
Laboratory Experiments	1

The response rate among students was 82.2%. Only one group was excluded from some analyses because its response rate was only 60%. Another group was excluded from some tests because 50% of their scores were tied. According to Brown and Hollander (1977), in the presence of ties, the P values obtained are approximate and not precise.

In Table II the scores of the various assessors are compared by Spearman Rank Correlation. It is clear that ranking by students was always different from that of teachers. This was also true when the ranking by individual groups of students were tested against the mean scores given by teachers. The correlation coefficient (rs) ranged from - 0.5 to + 0.34 and none was statistically significant.

Table II . Correlation between the assessment scores of members of the Faculty (Medical Education and Clinical Epidemiology) and the students

Variables	rs (*)	p
Evaluation by faculty (Medical Education) vs Evaluation by faculty (Clinical Epidemiology)	0.71	< 0.05
Evaluation by faculty (Medical Education) vs Evaluation by students	0.29	> 0.05
Evaluation by faculty (Clinical Epidemiology) vs Evaluation by students	0.11	> 0.05
Mean scores of faculty vs Evaluation of students	0.27	> 0.05

(rs*): Spearman Rank Correlation

When the groups were ranked according to their final score and then according to the scores they gave to other students, as assessors, the two ranks were positively correlated and statistically significant,. rs = 0.527 (p = 0.05). Then, the groups were ranked according to the magnitude of the correlation coefficient of their scores as assessors and the scores given by the teachers. This ranking was found to be correlated to the final score ranking rs = 0.55, although statistically insignificant, p = 0.066.

Discussion

The assessment process should be relevant to the method of education. In the Faculty of Medicine, Suez Canal University, the programme is community-oriented, community-based, and the learning process is problem-based, self-directed and student-centered. Students work, study and learn in small groups. This implies that a student must be able to assess himself as well as his colleagues. Hence, peer assessment is very pertinent to this programme.

Peer assessment is a very important source of information about students, particularly in areas related to attitude and behaviour. This is because students know each other much better than any one member of the Faculty. The role of students in the evaluation of educational programmes has been studied frequently (Scruggs, 1988; Leonard, 1985; Stillman, 1983). Many of these have demonstrated the great value of providing feedback for improving the learning environment. However, the ability of students to assess each other in the domains of knowledge and skills, especially those related to research methods, remains to be tested.

The results of this study have shown a great discrepancy between peer-student and teacher evaluation. This was true both at the individual group level, as well as at the group mean level.

Although none of the groups scoring was correlated to Faculty scoring, there were differences among the groups. The best group had a correlation coefficient of 0.34 with an alpha error probability of 0.17. The worst group had no discriminant ability in the evaluation of the various projects. The mean of the scores given by this group to the others was 75.3 with a surprisingly low standard deviation of 0.7. This might imply that students are not good assessors in this domain. However, there are other possible explanations. First, the assessment scores given by faculty members were considered as the gold standard. Although this might not be the "truth", it could be considered very near to it. The fact that the assessment scores given independently by two groups of faculty members are strongly and significantly correlated supports

acceptance of their scoring as the gold standard.
Second, the nature of the subject of an elective might influence the assessor. On the one hand the project dealing with laboratory experiments was ranked first by students, and seventh by staff. This was the widest discrepancy and could be explained by the possibility that students might be more impressed by this type of research. On the other hand, the projects dealing with medical education had much better ranking in Faculty than in student assessment. Although this factor was taken care of in the checklist, where equal weight was given for all the areas of research chosen, its role cannot be ruled out. The third explanation is related to a bias resulting from competition. If students consider peer assessment as a chance of getting relatively higher scores through lowering the scores of their colleagues, an ethical problem may be involved and distort the results. Fortunately, this was not true in this study, because of the finding that the better the rank of the group, the higher was the score it gave to the other groups, and the correlation was statistically significant.

To conclude, a discrepancy between peer and teacher assessment was detected. Peer student assessment might be of low validity, but it is not influenced by competition. To get the best results from student participation in the process of assessment, the measuring instrument must be refined, and the criteria of judgement must be very specific and clear.

References

Brown, B.W., & Hollander, M. (1977). *Statistics, a biomedical introduction*, 299. New York, NY: John Wiley and Sons.

Leonard, D.L., Marion R., & Niebuhr, B.R. (1985). The redundancy of student comments and numerical ratings in evaluations of teaching. *Journal of Allied Health, 14*, 141-147.

McAuley, R.G., & Woodward, C.A. (1988). Electives in the McMaster MD programme. *Medical Teacher, 10*, 91-94.

Scruggs, R.R., George, M.C., Raney, D.L., & Miller, D.L. (1988). Evaluation of teaching performance in US dental schools. *Journal of Dental Education, 52*, 102-107.

Stillman, P.L., Gillers, M.A., Heins, M., Nicholson, G., & Sabers, D.L. (1983). Effect of immediate student evaluations on a multi-instructor course. *Journal of Medical Education, 58*, 172-178.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 345 - 351

Students' Perception of the University of Ilorin Medical Course

Toye Ogunbode
University of Ilorin
Ilorin, Nigeria

Abstract

Formative course evaluation was conducted with the help of students during 1987 and 1988. Although the response rate was low, the results conveyed a fair impression of the students' perceptions of the Faculty's teaching methods, including discipline-integrated teaching, community-based education, student-centred learning, and problem-based learning. On the basis of these evaluations, the School plans to pay special attention to the further development of student-centred learning.

Introduction

The philosophy of the Faculty of Health Sciences, University of Ilorin centres on the production of medical practitioners who are relevant to the health care needs of the population. These doctors are trained to be able to serve in rural areas without compromising the acquisition of knowledge and skills that are offered by traditional curricula elsewhere.

The method adopted by the Faculty for the attainment of this objective consists of four components. The first of these is COBES which has been so well developed that it has earned the Faculty the designation "WHO Centre for Research and Training in Community-Based Medical Education".

Integration of teaching has also been fairly well developed in this Faculty. This is beautifully expressed in the pre-clinical phase of the course where writing an integrated paper constitutes a compulsory component of the first professional examination, in addition to the traditional subjects of Anatomy, Physiology and Biochemistry.

Requests for reprints should be sent to Toye Ogunbode, University of Ilorin, Faculty of Health Sciences, PMB 1515, Ilorin, Nigeria.

As for problem-based learning, this has not been considered highly relevant in the African situation, considering its scope and nature in developed countries. Problems abound in our setting, so that we unconsciously practice problem-based learning.

There is thus no strong need to carve it out specifically in the form of structured simulated problems.

The strategy that is normally addressed least is student-centred learning. Our Faculty received a strong stimulus through a visit by Dr. J.J. Guilbert in December, 1986, and the Faculty held its first workshop on student-centred learning in February, 1987. The most significant outcome of that workshop was the decision to give greater emphasis to tutorials as a mode of instruction. Didactic lectures were to be reduced by at least 10% by all departments within one year, and a corresponding increase in tutorials was to be achieved. This paper focuses on the perception of students on student-centred learning.

Method

Questionnaires on various aspects of the educational programme were distributed to all students in 1987 and again one year later.
The resultant data were analysed, the factors that were examined ranged from age at entry to the Medical School, to appraisal of the present schedule of training, and changes that the students would like to see introduced into their programme.

Results

Table I shows the responses in 1987 and 1988. The response rate was poor when the total student population of 455 is considered. However, we accepted the response as a good sample of the students' views. It is difficult to explain the relatively lower response in the clinical years (levels 400-600). This may be associated with the fact that at this period students are scattered among many postings.

Our request to identify themselves by quoting their matriculation number was not followed, probably because they feared that their responses might be used against them. It was not possible, therefore, to make a direct, individual comparison between the 1987 and 1988 responses. Of the 68 students who entered the 200 level year, 23 students were age 16 to 20 while the majority 42 (62%) were between 21 to 24 years of age. Three students were more than 25 years but less than 30 years old. Students normally spend one year in the University before starting the medical programme at the 200 level. The older students were generally those who entered the University by direct entry with the advanced General Certificate of Education.

As we expected, in the final year of the course, lectures decreased and clinical practicals remained high, but tutorials, quite unexpectedly, remained low in number.
It must, therefore, be concluded that many departments did not shift their emphasis from lectures to tutorials. It may also have been too soon to expect noticeable changes.

Table I. Number of responses by level of the course

	1987	**1988**
200 Level	32	26
300 Level	46	31
400 Level	25	28
500 Level	40	30
600 Level	39	45
	182	160

Table II. Students' preferences for mode of instruction

	1987		**1988**	
Lectures	85	52.5%	89	55.6%
Tutorials/Practicals	68	37.5%	53	33.3%
Both	19	10.0%	18	11.1%
	182	100%	160	100%

The responses were virtually identical in the two years showing that students continued to believe in a high component of lectures.

Table III. Intellectual stimulation

	1987		1988	
Lectures	73	40.0%	39	24.4%
Tutorials/Practicals	86	47.5%	110	68.9%
Undecided	23	12.5%	11	6.7%
	182	100%	160	100%

After one year the students felt that tutorials/practicals stimulated their intellect better. This taken alone is out of step with their persistent preference for lectures.

Table IV. Students' perception of their participation in learning (one set of students only)

	1987		1988	
Less than 50%	27	67.5%	17	38%
Greater than 50%	13	32.5%	28	62%
	40	100%	45	100%

One year later, the same set of students felt that they participated more in learning. There was a significant difference.

Table V. Students' perception of the current format of teaching (one cohort of students only)

	1987		1988	
Inadequate	18	45.0%	15	33.3%
Adequate	15	37.7%	22	48.9%
Preferred	7	17.5%	8	17.8%
Total	40	99.2%	45	100%

The 1988 format of teaching was perceived as better but not significantly so.

Table VI. Perception of the components of Ilorin Medical Education (one cohort)

1987 (40)	**I.T.**		**COBES**		**S.C.L.**		**P.B.L.**	
	N	%	N	%	N	%	N	%
Not good enough	7	17.5	4	10.0	25	62.5	14	35.0
Good	19	47.5	27	47.5	3	7.5	14	35.0
Needs Improvement	10	25.0	9	22.5	14	30.0	6	15.0
No response	4	10.0	-	-	-	-	6	15.0

1988 (45)	**I.T.**		**COBES**		**S.C.L.**		**P.B.L.**	
	N	%	N	%	N	%	N	%
Not good enough	6	13.3	6	13,4	15	33.3	9	20.0
Good	22	48.9	24	53.3	13	29.9	8	17.8
Needs Improvement	15	33.3	15	33.3	17	37.8	24	53.3
No response	2	4.4	-	-	-	-	4	8.9

Key: I.T. =Integrated Teaching; COBES = Community-Based Education and Service; S.C.L. = Student-Centred Learning; P.B.L.=Problem-Based Learning.

The results confirm that the two strongest components of medical education in Ilorin are community-based and integrated teaching. Student centred learning appeared to have improved a little 7.5% (good) in 1987 to 29.9% in 1988.

As for problem-based learning, the indication was that it needed to be re-emphasized. All students agreed that books, slides and tapes would assist them in their learning. If these could not be provided all at once, the overall response was in favour of books first, then slides and tapes.

Table VII. At what level should tutorials be introduced and increased

The 342 students of the two years responded:

During the preclinical level	15	4.4
During the clinical level	102	29.8
Throughout the course	225	65.8

A clear majority of the students favoured that tutorials be introduced throughout the course.

Discussion

The students of the Faculty of Health Sciences were given an opportunity to focus on their educational programmes. For the first time, they were involved in discussion of the main strategies of teaching. The students were not prepared to declare their identity on the questionnaire. This is in consonance with the Nigerian culture of preferring anonymity when responding to sensitive issues. It deprived the Faculty of an important opportunity to make comparative observations in a longitudinal study.

There were two outstanding perceptions. The first was the confirmation of the status of the four features of our medical educational programme. It can now be stated with confidence that community-based activities and integrated learning have been well developed at the University of Ilorin. Problem-based learning was not rated highly. This could mean a poor understanding of this method of learning, or that the uncertain responses represented indifference because the students were faced with day to day real problems both in the hospitals and the community.

Student-centred learning was obviously least well established, but it was encouraging to note that a year later the senior students appreciated the value of this component more. Student-centred learning, therefore needs to be developed further in this Faculty. However, the subsequent higher rating of student-centred learning was perhaps due to the increased interest of the students since they had become involved in the developmental process that led to the decision to strengthen student-centred learning. The lesson here is that participation by students in curriculum development and change should be encouraged.

Although it has been possible to observe definite trends in a number of the issues discussed above, the single year interval between evaluations was perhaps too short to allow for firm conclusions. Evaluation should probably be carried out at two or three year intervals and preferably a follow up with a single cohort of students. This requires a well planned protocol and total Faculty commitment, because it is unlikely for leadership to remain consistent for 5 to 6 years. Nigerian medical schools allow for a maximun tenure of four years for the Chief Executive of the Faculty.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 353 - S 357

Educational Gain by Students Training in Community Health Care Settings

Amany Refaat and Zohair Nooman
Suez Canal University
Ismailia, Egypt

Abstract

Twenty-two students, the whole class of Year Five at the Faculty of Medicine, Sana'a University, Yemen, were introduced to a specially designed training programme at primary health care units for a period of two weeks. They were exposed to a pre-test and post-test to assess clinical abilities which yielded average scores of 70.5% and 93% respectively (a gain of 22.5%), and to assess their identification of the structure and function of primary health care units, and the duties of physicians and health team members which yielded average scores of 55% and 73% respectively (a gain of 18%).

The overall evaluation of the programme showed that they achieved most of the objectives satisfactorily. Some of the problems met and how they were faced provide an example of introducing student-centred, community-based education to teacher-centred students.

Introduction

A specially designed training programme for students from the Faculty of Medicine, Sana'a University at primary health care units was held for two weeks as a part of a four week training programme at the Faculty of Medicine, Suez Canal University (FOMSCU). The programme was organised at the request of the Faculty of Medicine, Sana'a University. Twenty-two students, the whole class of Year Five, attended the programme.

The main aim was to introduce the students to the scope of primary health care. More specifically, the objectives were: 1) identification of the structure and function of primary health care units; 2) identification of the job description and duties of health team members; 3) identification of the preventive and administrative abilities of the physician; 4) presenting patient care within the facilities of the units; 5) clinical

---

Requests for reprints should be sent to Amany Refaat, Faculty of Medicine, Suez Canal University, Ismailia, Egypt.

reasoning and solving patients problems; 6) working in and with a team, and 7) self and peer assessment.

The programme was preceded by an orientation session to explain the objectives and details of the programme. Four urban primary health care units at Ismailia were chosen for the training. Students were divided into four groups and distributed to the units under supervision of a field tutor. The tutors were instructed to assign the students to work with the unit's physicians and health team members in different activities of the units. At the end of each day, there was a session with the tutor to discuss the activities. Each student was expected to write a case study of the patient he cared for by using the clinical reasoning approach.

After a few days, the students asked for the programme to be stopped in favour of clinical instruction at the hospital. A meeting was held to discuss the concept of primary health care with the students as its scope is not just "seeing patients". The tutors were asked to help the students more than before to be self-reliant in their learning. Students from Year Five at FOMSCU were asked to help their colleagues in their work at the primary health units and in using the problem solving approach to deal with patient problems. They showed them examples of their case studies as models to follow. The students continued the programme and evaluated it at the end.

Literature Review

Training of students at primary health care units is the most commonly described community-based learning activity as it exposes students to a wide variety of the competences required by primary care physicians (Refaat, 1989). The objective of the training programme was to introduce students to common medical problems, the influence of socioeconomic problems on health, and the role of different health personnel in health care delivery (Putman et al., 1975).

Training also exposes the students to the nature of the health delivery system in addition to influencing students towards primary care in rural and underserved areas (Blumenthal et al., 1983).

Training promotes the health team concept (Edinberg et al., 1978; McPherson and Sachet, 1982). Hart (1985) proposed that the core curriculum for all doctors should be primary care-based. Guilbert (1981) listed the competences that should be acquired by students as preventive, curative, health educational, managerial, team work, research work, collaboration with other sectors for community development, problem solving and self assessment. These competences were reiterated by Fülöp (1983) for health manpower development to achieve the most important social target of "Health for All".

Method

The present study aimed to measure the educational gain of students training in a community health care setting. For that purpose, the students were tested for their gain in identification of: the structure and function of primary health care units; the job description and duties of health team members; preventive and administrative abilities of the physician. For these objectives students responded a pre-test and a post-test in the form of an open-ended questionnaire. Their answers were judged against a key designed by the staff. The score of each student was used to determine the mean gain. Their gain in clinical abilities was assessed by a pre-test and post-test using examination of a patient and a checklist for the assessor.

At the end of the programme, a questionnaire was distributed to the students to evaluate perception of their achievement of the objectives.

Results

The mean score of the students on the pre-test on the structure of primary care, etc. was 55.5% (range 41 - 77) and on the post-test 73.0% (range 60 - 87). The mean increment was 18.1% (range 1 - 27).

The mean score of the students on the pre-test on clinical abilities was 70.5% (range 31 - 86) and on the post-test 93.0% (range 73 - 100%). The mean increment was 22.5% (range 12 - 46%).

The results of their evaluation of their achievement of different objectives are represented in Table I.

Discussion

Many medical schools have described the training of students at primary health care units. One of the important issues is how to measure students' gain for the different competences identified in the literature. In the present study, it was clear that students gained in both clinical abilities and in their capability to identify the structure of PHC. The objectives concerned with the identification of structure and function of primary care were underestimated by the students at the start of the programme. However, once they were oriented and had continued their training they gained from it.

Their scores were a bit low, but as the programme covered only two weeks, they considered it successful. It is expected that if the students had been trained for a longer period and on a more regular basis, they would have appreciated more fully the role of a primary health unit. Since the students were so keen to practice clinical training, it is obvious that they gained more in their clinical abilities. However, they

Table I. Student perception of achieving the objectives (mean ± 50)

1. Identification of the structure and function of the primary health care unit:		
*	Identification of the health care system	(4.1 ± 0.9)
*	Primary health unit represents and integrated health service	(3.5 ± 1.3)
*	Identification of the pattern of health problems in PHC	(3.7 ± 1.0)
Mean of achievement of first objective 3.8		
2. Identification of the job description and duties of health team members:		(4.0 ± 0.9)
3. Identification of preventive and administrative abilities of physician:		
*	Preventive abilities	(3.8 ± 1.2)
*	Administrative abilities	(3.6 ± 1.1)
Mean of achievement of third objective 3.7		
4. Presenting patient care within the facilities of the unit:		
*	Care of many patients	(2.2 ± 1.2)
*	Acquiring new clinical skills	(2.0 ± 1.0)
*	Improving clinical skills	(3.6 ± 1.1)
Mean of achievement of fourth objective 2.6		
5. Clinical reasoning and solving patients problems:		
*	Acquiring the skill of problem identification	(2.6 ± 1.3)
*	Ability to write a case study	(2.6 ± 1.1)
Mean of achievement of fifth objective 2.6		
6. Work in and with a team:		
*	Discussion of cases with colleagues	(2.9 ± 1.2)
*	Active work with members of the health team	(2.7 ± 0.9)
Mean of achievement of sixth objective 2.8		
7. Self and peer assessment:		(2.3 ± 1.0)

were not satisfied with their patient care at the primary care units. They were not satisfied with the number of patients under their care, as their time had to be devoted to many different activities.

In relation to acquisition of clinical reasoning and problem solving skills, they faced difficulty in problem identification and in writing case studies about their patients. Although the tutors and their colleagues from Year Five at FOMSCU tried to help them, the time was too short to acquire such skills satisfactorily.

The students were not able to benefit from self and peer assessment, as they were not familiar with this task. The students from Sana'a University had been educated in a teacher-centred system and had been trained with emphasis on clinical abilities. Although their achievement in the objectives of student-centred, problem-based learning were not satisfactory, merely their introduction to these aspects had been worthwhile. If the students had had a longer stay at FOMSCU and had been able to train for independent learning prior to the programme, they might have gained more from this experience.

References

Blumenthal, D.S., Ballard, L.L., Daniel, S.L., & Satcher, D. (1983). Introducing preclinical students to primary care through a community preceptorship programme. *Journal of Medical Education, 58*, 179-185.

Edinberg, M.A., Dodson, S.E., & Veach, T.L. (1978). A preliminary study of student learning in interdisciplinary health teams. *Journal of Medical Education, 53*, 667-671.

Fülöp, T.F. (1983). Educating for primary health. In: McGuire et al. (Eds.). *Handbook of health profession education*, 463-479. San Francisco, CA: Jossey-Bass.

Guilbert, J.J. (1981). *Educational handbook for health personnel*. Geneva, Switzerland: World Health Organisation.

Hart, J.T. (1985). The world turned upside down. *Journal of General Practice, 35*, 63 - 68.

McPherson, C., & Sachet, I.A. (1982). Health care team training in the US and Canadian medical schools. *Journal of Medical Education, 57*, 282-287.

Putman, S.M., Wayne, D., & Lawrence, R.S. (1975). A model for teaching primary care in a rural health center. *Medical Education, 50*, 285-287.

Refaat, A. (1989). Components of community-based education. *Keynote to the joint meeting of task force II, III, Network of Community-Oriented Educational Institutions for Health Sciences*, Ismailia, Egypt.

Annals of Community-Oriented Education
1990, Vol. 3, Part II, S 359 - S 365

Factors Influencing the Commitment of Faculty Members to the Concept of Community-Based Education

Amany Refaat and Esmat Ezzat
Suez Canal University
Ismailia, Egypt

Abstract

A questionnaire was distributed to members of the Faculty of Medicine, Suez Canal University to estimate the different factors that affect their commitment to community-based education. Responses from 50 members from different specialties including 22 juniors, were analysed. All had worked as field tutors, and 13 had supervised student community projects.

The most convincing factors were the educational relevance of community-based education (CBE) and the different abilities students gain from it. They were convinced that their work in the community provided students with a good role model. Field work was also a rich area for research work and professional improvement. They denied that they worked for financial incentives and doubted that their promotion in the school, as it is confined to work in the community, could affect their conviction. There is little difference between the responses of different specialties. Faculty members who had not attend the workshops on CBE were less committed.

Introduction

Community-based educational activities permeate the whole six year curriculum of the Faculty of Medicine of Suez Canal University (FOMSCU) and take up a minimum of 35% of the total curriculum. Activities involve supervised work in a variety of settings, including primary health centres (urban and rural), occupational clinics, family follow-up programmes, community projects and surveys, and health education programmes. Students work in small groups under the supervision of Faculty members in different settings. Faculty members work as field tutors to facilitate the training of students and to evaluate their achievement of the educational objectives.

Requests for reprints should be sent to Amany Refaat, Faculty of Medicine, Suez Canal University, Ismailia, Egypt.

All Faculty members from all specialties are expected to work as field tutors as a prerequisite for promotion and to qualify for overtime incentives. Workshops on community-based education and the role of field tutors are held regularly by a Faculty development unit.

Participation of Faculty members in these workshops is required for field tutors.

Community-based education (CBE) is a concept that aims to graduate physicians who are responsive to the community's health needs and able to work in, and improve the health care system. Faculty members in a community-based medical school should be selected on the basis of their acceptance of the CBE philosophy and for their readiness to accept the greater work load demanded by the new instructional methods. They should be committed to its goals and should work as a team to achieve these goals rather than compete for personal interests (Refaat et al., 1989). The quality of tutors' skills is a common concern of medical schools. In student centred learning the role of the tutor is to serve as both monitor and as a stimulus to the process of learning (Barrows and Tamblyn, 1980). Guilbert (1985) argued that many medical schools advocated changes in medical education and that they should prepare their teachers for their new tasks. A fundamental understanding of the educational philosophy may not be acquired without an orientation programme (Dimauro and Mack, 1989).

The aim of the present study is to estimate the conviction of Faculty members by the concept of CBE and the different factors that influence their conviction.

Method

A questionnaire was distributed randomly to members of the Faculty. Each item called for response on a five point scale, where 1 stood for "not convinced at all" and 5 for "strongly convinced". Responses from 50 staff members were collected and analysed.

Results

		Mean	**SD**
CBE as a concept			
*	CBE is an educational method which graduates competent physicians	3.6	1.1
*	CBE introduces students to learning in the environment that they are going to work in after graduation	4.0	1.0
*	CBE is just an educational jargon	2.0	1.2

	Mean	SD
Competences acquired by CBE		
* Holistic approach to health	4.0	1.0
* Clinical competences	3.6	1.0
* Preventive competences	4.1	0.8
* Administrative competences	4.0	0.8
* Leadership abilities	3.8	1.0
* Working in a team	3.9	1.0
CBE and Community Health Problems		
* CBE exposes students to community health problems	4.3	0.7
* CBE stimulates students to learn through problems	3.7	0.9
* CBE exposes students to the different factors that influence health	4.0	0.9
* CBE should be integrated with PBL	3.3	1.1
CBE and the Hospitals		
* A well equipped teaching hospital could lead to acquisition of the same competences	2.7	1.0
* CBE does not contradict learning in a hospital	4.0	1.3
Graduates of CBE Programme		
* Physicians who are able to work at primary care level only	2.8	1.1
* Physicians who are able to become highly specialised	2.8	1.2
Role of Field Tutors		
* There is no need at all for the field tutor	2.0	1.2
* He is a good role model	3.9	1.0
* He upgrades the health services	3.6	1.1

	Mean	SD
Benefits form CBE for Tutors		
* It is a rich area for research work	3.6	1.2
* It is a new chance for professional improvement	3.6	1.2
* It should fulfill promotion criteria	2.3	1.5
* It should offer financial incentives	2	1.4

As all 50 Faculty members had worked as field tutors, other areas were explored to investigate additional factors.

Supervising Students Work in Community Projects		
Yes (13)	3.8	0.4
No (37)	3.4	0.4
Attendance of CBE Workshops		
Yes (38)	3.9	0.4
No (12)	3.4	0.4
Different Specialties		
Basic Science (16)	3.4	0.3
Clinical Science (25)	3.4	0.5
General Practice (4)	3.8	0.4
Community Medicine (5)	3.6	0.1
Seniority		
Juniors (22)	3.7	0.3
Seniors (28)	3.5	0.3
Master of Health Profession Education		
Yes (4)	3.8	0.2

Discussion

One of the important issues at FOMSCU is the acceptance of its philosophy by its teachers (Nooman, 1979). As a community-based medical school, where the community-based learning activities comprise more than one-third of the curriculum, it was important to measure how Faculty members perceived the CBE concept.

From the analysis of the responses it is clear that the staff had accepted the concept and its educational relevance. They did not consider CBE as jargon, so that the concept itself seems to be clear to them. The different competences acquired by students during their work in the community were seen as supporting the concept. In particular, the preventive, administrative and holistic approach to health, which are aspects of primary health care, were accepted by the staff as achieved through CBE.

Also they were convinced that CBE exposed students to community health problems and stimulated them to learn and, to a great extent, exposed them to the different factors that influence health. The linkage between CBE and problem-based learning (PBL) was not known to them and they did not know if they should be integrated. However, that point is controversial everywhere. They did not know whether a well equipped hospital could lead to acquisition of the same competences acquired by CBE. Anyway, they were convinced that there was no contradiction between learning in the hospital and the CBE.

The future of the graduate of a CBE programme was unclear to them, they did not know whether the graduate could only work in primary care or could also become a specialised physician. That point could be explained by the fact that the graduates of FOMSCU (2 classes now) are not yet evaluated with regard to their performance and their career choice. Further investigation into career choice and performance of graduates of other community-based schools will be needed to clarify this point.

When asked about their role as field tutors and what factors motivated them, it was obvious that they were not convinced that this job should be abolished as unnecessary. They saw themselves as good role models for students and as upgrading the health service. The most motivating factors were that working with the students in the community exposed them to a rich area for research and professional improvement. It seemed that the school's regulations linking promotion with work in the community did not influence their attitude. Also linking overtime incentive to the work was not a convincing factor. The high standard deviations for the two previous points indicate a wide spread in opinion. This might indicate that both promotion and financial incentives may motivate some Faculty.

Thirteen of the respondents surpervised students work in community projects, their responses indicated that they were slightly more motivated (3.8) in comparison to those who did not supervise students (3.4).

Workshops on CBE are held regularly in the school as a requirement for field tutors. Not all tutors were able to attend such workshops, and those attended the CBE workshops were slightly more motivated (3.9) than those who did not (3.4). There were no major differences between the specialties. Both basic and clinical science staff responded similarly (3.4), while staff from general practice and community medicine departments responded more positively (3.8 and 3.6). However, one cannot rely on these data because of the small number of respondents from these departments.

Junior members of the Faculty appeared to be somewhat more motivated (3.7) than their seniors (3.5). This may be due to freshness of the juniors and to their ability to accept new concepts more readily than older staff members.

Conclusion

- The most influential factors were the educational relevance of CBE, and the competences acquired by students through CBE.
- Academics were influenced by the CBE concept itself, by their role as good models for students and by their opportunity to upgrade the health service.
- The relationship between CBE and PBL was unclear to them.
- The role of the hospital in CBE and the career choice of graduates were unclear to them.
- Faculty professional improvement and research work were a strong influence.
- Linking promotion and financial incentives to CBE did not constitute a motivating factor.
- More work with students in the community strengthened their motivation.
- Preparing staff through workshops increased their motivation.
- Different specialities showed no significant differences in their responses.

Acknowledgement

We would like to thank the Center for Research and Development in Medical Education & Health Services for facilitating the conduct of the study.

References

Barrows, S.H., & Tamblyn, M.R. (1980). Problem-based learning. New York, NY: Springer Publishing.

Di Mauro, K., & Mack, L.B. (1989). A competency-based orientation programme for the clinical nurse specialists. *Journal of Contin. Educ. Nurs, 20,* 74-78.

Guilbert, J.J. (1985). Teacher training workshops education. *Medical Education, 19,* 332-343.

Nooman, Z.M. (1979). FOMSCU interim report.

Refaat, A.H., Richards, R.W., & Nooman, Z.M. (1989). A model for planning a community-based medical school curriculum. *Annals of Community-Oriented Education, 2*, 7-18.